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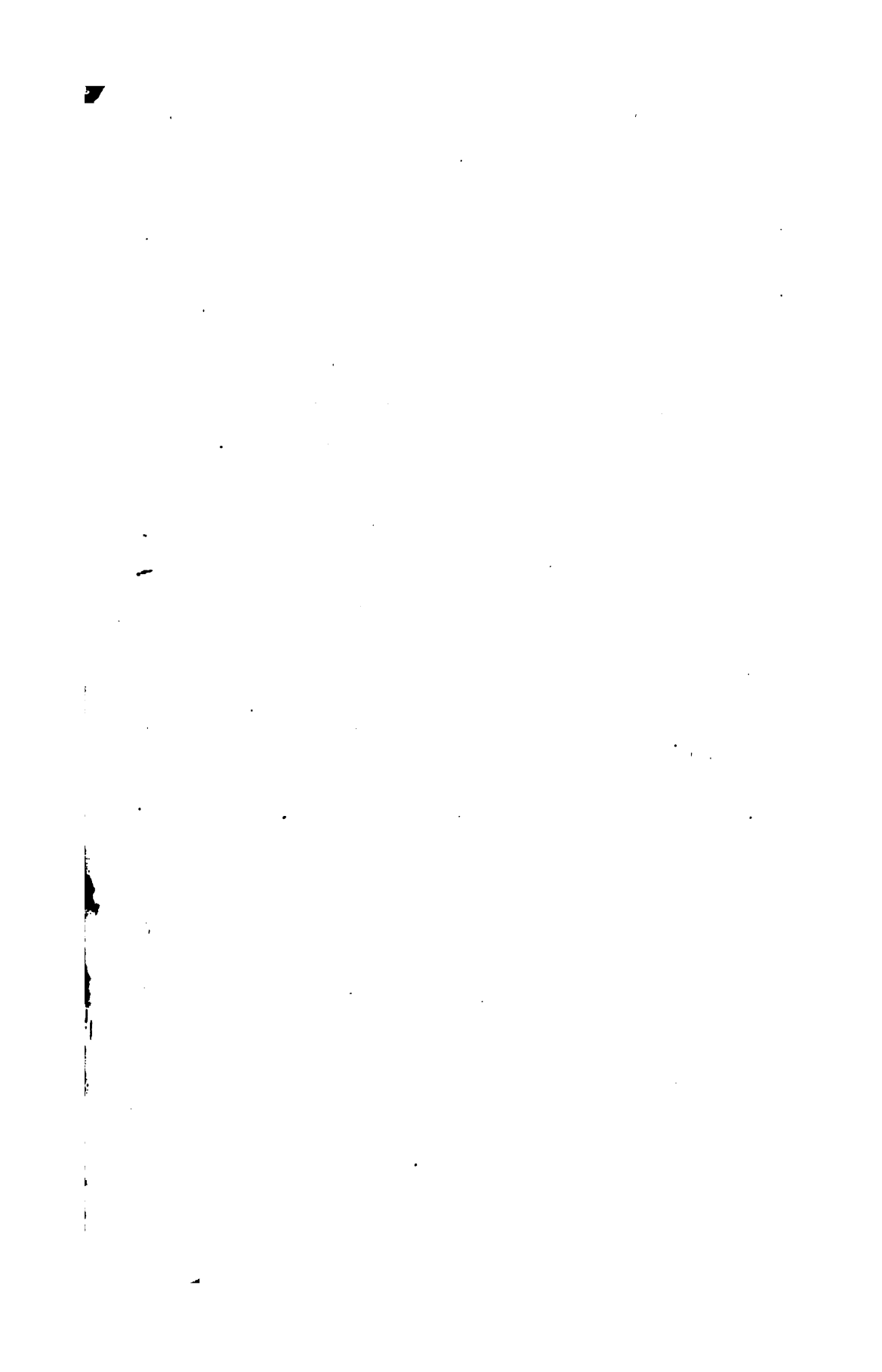


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Dr. Vander
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A TREATISE
ON
CANCER OF THE BREAST
AND OF
THE MAMMARY REGION.

NOTICE.

It was originally my intention to have added to the valuable work of M. Velpeau, some notes and observations which a long practice, aided by the extremely favourable opportunities for observation I have had as Surgeon to the Royal Free Hospital, and especially as Surgeon to the Cancer Hospital, Brompton, readily enabled me to do ; but on reflection, it seemed to me that such a step might diminish the interest of a work I am now preparing for the press, on Cancer, intended to contain the results of my experience. Besides, the name of M. Velpeau is a sufficient recommendation in itself to any work.

W. M.

Mr. Vanderpool

A TREATISE
ON
CANCER OF THE BREAST
AND OF
THE MAMMARY REGION.

BY
A. VELPEAU,
MEMBER OF THE INSTITUTE:
SURGEON TO THE HOSPITAL DE LA CHARITE, PARIS.

TRANSLATED FROM THE FRENCH,
By W. MARSDEN, M.D.
SURGEON TO THE ROYAL FREE HOSPITAL, AND CANCER HOSPITAL, LONDON.



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1856.

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TABLE OF CONTENTS.

	PAGE
PREFACE	xi
DISEASES OF A MALIGNANT NATURE, OR OF CANCERS OF THE MAMMARY REGION.	
CHAPTER I.—VARIOUS FORMS OF CANCER	1
ART. I. Scirrhus	2
§ 1. Hard or Ligneous Scirrhus	2
A. Scirrhus, properly so called, or Globular	2
B. Radiated or Branched Scirrhus	4
C. Cuirass-formed or Tegumentary Scirrhus	7
D. Hard, or Ligneous Scirrhus en masse	14
E. Atrophic Scirrhus	16
F. Pustular or Disseminated Scirrhus	18
G. Scirrhus of the Lactiferous Ducts	21
§ 2. Lardaceous Scirrhus	25
ART. II. Encephaloïd	29
Transformations	32
Cysts	32
Purulent Deposits	33
Ulcerations	33
Fungosities	34
Ichor	35
ART. III. Melanosis	36
ART. IV. Chondroïd, Colloïd, Fibro-plastic Cancer	38
§ 1. Napiform, or Fibro-plastic Tumours, properly so called	39
§ 2. Colloïd Cancer	43
ART. V. Epithelial Cancer, or Epitheliome	48
ART. VI. Keloïds	49
ART. VII. Anomalous Cancer	53

	PAGE
CHAPTER II.—DIFFERENTIAL DIAGNOSTIC	60
ART. I. Diagnostic of Cancers from each other	60
ART. II. Diagnostic by Microscopic Anatomy	65
ART. III. Differential Diagnostic of Cancer from Harm- less Tumours	88
§ 1. Transformation of Tumours	88
§ 2. Adenoids	90
§ 3. Other Harmless Tumours	95
§ 4. Special Symptoms	104
A. Pain	104
B. Discharge by the Nipple	107
CHAPTER III.—NATURE, ETIOLOGY OF CANCER	113
External Injuries	113
ART. I. Predisposing Causes	116
ART. II. Occasional Causes	119
ART. III. Contagion	127
CHAPTER IV.—PROGNOSTIC OF CANCER	130
CHAPTER V.—TREATMENT OF CANCERS OF THE BREAST . . .	136
ART. I. General Medication	137
§ 1. Bloodletting	137
§ 2. Purgatives and Emetics	138
§ 3. Preparation of Hemlock	138
§ 4. Various Preparations	139
§ 5. Arsenic	139
§ 6. Mercury	140
§ 7. Alcaline Substances	140
§ 8. Preparations of Gold	140
§ 9. Bark, Sarsaparilla	141
§ 10. Iodurets	141
§ 11. Cod-liver Oil	142
ART. II. External Means	142
§ 1. Pomades	143
§ 2. Compression	143
ART. III. Method to follow	145
ART. IV. Appreciation of the Curative Means	148

TABLE OF CONTENTS.

vii

	PAGE
ART. V. Surgical Means	152
§ 1. Indications and Counter-Indications	153
A. Proofs drawn from Observation and from Theory	154
B. Data furnished by the Microscope	162
C. Clinical Facts	172
A. Observation	174
B. Forms of Cancer	181
C. Ganglions in the Axilla	187
D. Sexual Organs	189
E. Presence of a Second Inoperable Cancer	190
F. Hereditary Predisposition	190
§ 2. Dangers of the Operation	195
§ 3. Preparatory Treatment	199
§ 4. Operative Part	204
A. Position of the Patient	204
B. Assistants	205
C. Incisions	205
D. Choice of Instruments	206
E. Direction of the Incisions	207
F. Incisions by Transfixion	209
G. Examination of the Wound	210
H. Accessory Tumours	211
I. Remarks	212
J. How to Stop the Bleeding	213
K. Torsion	214
§ 5. Dressings	215
A. Mediate Reunion	215
B. Immediate Reunion	217
1. With Adhesive Plaster	219
2. With the Suture	220
3. With the Serres-fines	220
§ 6. Regimen of the Patient operated on	224
§ 7. Accidents	225
A. Inexplicable Cases of Death	226
B. Pleurisy	227
C. Phlebitis	228
D. Cancerous Infection	229
E. Erysipelas	230
F. Angioleucitis	234
G. Diffuse Phlegmon	234
ART. VI. Caustics	235

TABLE OF CONTENTS.

	PAGE
§ 1. Value of Caustics in general	235
A. Advantages	236
B. Disadvantages	238
C. Real Value	239
§ 2. Particular Caustics	241
A. Butter of Antimony	241
B. Vienna Caustic	241
C. Caustic Potass	242
D. Caustic of Filhos	242
E. Monohydrated Azotic Acid	242
F. Black or Sulphuric Caustic	243
G. Chloride of Zinc	245
H. Arsenic	248
I. Chloride of Gold	251
J. Résumé	252
K. Specification of certain Caustics	252
ART. VII. Congelation	253
ART. VIII. Relapses	255
§ 1. Preventive Means	255
A. Setons and Issues	255
B. Regimen	256
C. Syphilization	256
D. Conclusion	258
§ 2. Curative Means	259
Synoptical Tables of Scirrhus	264

SECOND PART.

DISEASES OF THE MAMMA IN MAN.

SECTION FIRST.—BENIGN OR HARMLESS DISEASES	277
CHAPTER I.—INFLAMMATIONS AND ABSCESSSES	277
CHAPTER II.—INDURATIONS	283
CHAPTER III.—CYSTS	285
CHAPTER IV.—TUMOURS	286
SECTION SECOND.—MALIGNANT OR CANCEROUS DISEASES .	288

THIRD PART.

DISEASES OF THE MAMMA IN NEW-BORN CHILDREN AND	
INFANTS	292

Fig. 2.



Visto sc.

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Fig. 1.



Fig. 3.



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Plat. 50.





Plato sc.

EXPLANATION OF THE PLATES.

PLATE I.

SCIRRHUS.

Fig. 1.—Lardaceous scirrhus, in a woman forty-six years of age, operated on the 27th of April, 1852.

Fig. 2.—Radiated or branched scirrhus.

Fig. 3.—Cellules of the tumours mentioned above.

PLATE II.

ANOMALOUS CANCER.

The breast is represented here such as it was when the patient (page 53) entered the Clinical Hospital, consequently long before her death. The left breast, the only one affected at that time, gave rather the idea of spots and of vascular vegetations, than of cancer.

PLATE III.

LARDACEOUS ENCEPHALOÏD.

Section of a tumour of the breast removed in March, 1852. Five distinguished micrographers examined it with care, and found no cancerous cellules in it. I had, notwithstanding, diagnosed a lardaceous encephaloïd, a cancer of the worst description, before the operation as well as after the anatomical inspection of the pathological preparation. The reproduction or relapse took place two months and a half afterwards, and the patient died a year afterwards of a general cancerous infection.

VELPEAU. Cancer of the Breast



Plaque IV.

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PLATE IV.

CUIRASS-FORMED SCIRRHUS.

Fig. 1.—Hard or ligneous scirrhous, in plates, comprising the integuments of all the breast and the two mammæ, in a woman still young, and of a strong constitution (Observation II.).

Fig. 2.—Varieties of cancerous cellules, with their nuclei and nucleoli.

To the left of *Fig. 2*, cellules of a tumour of the breast operated on in the Street Madame (Rue Madame) in 1847 ; in this case there has been no relapse.

Above the figure, isolated nuclei of the same tumour.

To the right of the same figure, cancerous cellules and nuclei, lardaceous encephaloïd, relapse at the end of three months (Madame L——, 1848).

Below, cellules and fibrillæ of scirrhous, and nuclei of a cancer of the galactophorous ducts ; relapse (Dame F——).

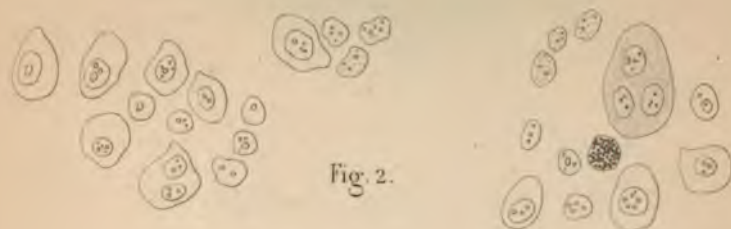


Fig. 2.



Fig. 1.



Plata 20.



AUTHOR'S PREFACE.

A TREATISE on the Diseases of the Mamma did not exist in the French language, and the articles of Boyer, of A. Cooper, contained in our dictionaries, and consecrated to this group of affections, could no longer be held to supply the want. The work I now present to the public has for its object to fill up in part this deficiency. It was commenced more than thirty years ago. Some of the facts serving as its basis were collected in the Hospital of Tours, at the beginning of my medical studies, under the direction of expert teachers, V.-O. Gouraud and M. Bretonneau. My professional duties in large hospitals, a consulting practice at home become extensive, and an active or out-door practice equally so, have enabled me to collect on the entire subject nearly two thousand new observations. The result of my researches, whether anatomical or clinical, and the doctrines deduced from them, have, moreover, been in part submitted to the public at various intervals since 1822.* My duties as a teacher in the faculty lead me, in fact, daily to a consideration of these subjects, proved by a number of

* *Revue Médicale*, 1825, t. ii. pp. 257, 326.—*Revue Médicale*, 1825-1826.—*Arch. Gén. Méd.*, 1826-27, &c.

articles in the journals and theses.* My first communications exercised even a certain influence over the press, as well as in the Academies themselves, from 1824 to 1825;† and the article "Mamma," of the *Répertoire des Sciences Médicales*, which seems to have formed the starting point to the important memoirs of M. Nélaton, on Inflammations, and of A. Berard, on Tumours of the Breast, point to where I was in 1839; thus, numerous fragments of my present work have been for a long time in the possession of the public.

The examination, the study, the discussion of the facts, unceasingly renewed at the bed-side of the patients, have continually retarded the completion of the work. The impulsion once given, to follow the movement became a necessity. Compelled to submit my conclusions daily to the ordeal of practice, I was forced to modify them, to rectify by little and little my opinions, in the centre of information always new, springing incessantly from experience and reflection. Thus, this is a work which I have re-written several times.

It is not always the want of materials which has influenced me; no one, I believe, possesses such a mass on which to base his opinions. It has thus happened, that, without neglecting absolutely those of my predecessors, I have yet been able almost on every occasion to remain contented with my own. In this respect my embarrass-

* See, amongst others, De Berigny (*Gazette des Hôpitaux*, 1835, No. 165, &c.), Duchesne (*Thèse de Paris*, 1839, No. 283), Colomb (1841, No. 14), Traichet (1843), Pareja (1844, No. 207), Gaffarot (1846, No. 71), Tizon (1847, No. 42), Moisin (1851, No. 230), Doré (1851, No. 218), Robelin (1852, No. 32), &c.

† Memoir on a remarkable case of cancerous disease, 1825.

ment has even been great. The observations I possess would alone have required more than a volume. I have contented myself with detailing only some, and giving a *résumé* of the greater number simply in a tabular form. To render the observations useful, numerous engravings would have been required, and this would have increased the expense of a work which I desired to place at the command of all the world.

Of the three principal parts composing it, the first,* which treats of Inflammations, requires no preliminary justification. Based on surgical anatomy, the classification I have adopted, and which may besides be associated with any other, may be perfected, modified; but it does not seem to be possible to reject the basis on which it rests.

The two other sections, those which have a reference to Harmless and to Malignant Tumours, are not in the same category. The discussions in which I have been engaged, in various writings, and in presence of learned societies, in 1825 as in 1844, sufficiently show that my efforts have been constantly influenced by a desire to remove from the class cancers, tumours which by their nature may or ought to be separated. The confusion was such, the difficulties of the subject so great, that thirty years of assiduous researches are far from having sufficed to dissipate wholly the obscurities and the uncertainty.

One important result, however, has been obtained; it may be admitted as demonstrated, that of 400 cases

* Part II.

of tumours confounded under the title of *cancer*, there are 100 nearly which are not cancerous, and which it is possible to distinguish at the bed-side of the patient. I feel persuaded that new studies, the natural progress of science, will still admit of this number being increased. If the more I advance, the proportion of harmless tumours in my tables becomes the greater, it must not be inferred from this that there are more tumours of this sort than formerly; no, it arises solely from this, that diagnosing more correctly, I increase the number in some measure year by year. There is room, therefore, to hope, that, proceeding from this basis, surgeons may one day be able still further to narrow the circle of true cancer.

Non-malignant tumours themselves are not all of the same species. Having often confounded these tumours with each other, I at first gave descriptions, which applying to some, did not suit others. Hence the various names which I used in turn to apply to them. I find it essential to form of them already two groups, the one for tumours really hypertrophic, the other for tumours of new formation. The young school of Paris, resting on data furnished by the microscope, does not discriminate these two groups, which it includes under the common title of partial hypertrophy of the mamma. Micrographers, in fact, consider the non-cancerous tumours of the breast to be due to an accumulation of the epithelium in the radicles of the galactophorous ducts, and to a hypertrophy of a certain number of mammary *acini*. Satisfactory as regards the first group, this doctrine does not seem to me applicable to the second.

True hypertrophic tumours differ in so many characters from the adenoïd tumours, that it is difficult to avoid separating them altogether. In the course of this very year, in the month of May, again in November, I have had two proofs of the most convincing sort. In the first patient, a strong young woman, regular, the mother of two children, as well as in the second, an unmarried woman of forty-four, gibbous, of wretched constitution and health, the tumour, of the size of an egg, softened towards the centre, could not be distinguished from the mammary tissue, with which in both they might be seen to be continuous in all parts, without any appreciable line of demarcation. Placed face to face with adenoïd tumours removed at the same time from another female patient, these tumours were as different as regards the form, as a lipoma is from a hypertrophy of the tongue, for example. The microscopic composition is the same, it is true, in both cases, but I have stated in the body of the work what confidence is to be placed in such a testimony.

I must add here a fact of a certain importance. In a woman operated on for an enormous adenoïd (10lbs.) eighteen months previously, a secondary tumour appeared under the edge of the great pectoral muscle, globular, moveable, and which I removed by simple enucleation. This had, moreover, all the physiognomy of other adenoïd tumours, as well before as after the operation. Now, M. Follin, who examined it with the greatest care under the microscope, transmitted to me the following note:—

“This tumour was formed of two different parts. The

one, cortical, dense, of a fibrous consistence, greyish-white, slightly opaline, crisped under the scalpel, and by pressure gave out only a serous liquid, transparent, altogether distinct from the milky-looking juice of cancerous tumours. The other, the central part of the mass, was formed mainly of yellowish collections, grumous, mingled at certain points with blood unchanged in colour. Under the microscope, the cortical part was found to be formed of the following elements:—1st, elongated ellipsoidal bodies, having a central nucleus, terminated by rounded or slender extremities, in great numbers: 2nd, fusiform bodies, much elongated, slightly swollen in the centre, and provided with tails, often of great length. These spindle-shaped bodies collected closely so as to form a group of some density, constituted the fundamental portion of the tissue.

“With regard to the central portion, it presented no determinate structure. I found only fibrinous collections, and some blood-globules; (these were the sanguineous collections in process of decoloration.)”

Thus, in this tumour there were no epithelial cellules, *culs-de-sac*, mammary elements; and yet how can we deny its being of the same species as that of the breast? and what was that secondary tumour, of the size of two fists, which bore no resemblance to lymphatic ganglions, but a tumour of deposit or of new formation?

The patient of whom I have just spoken was scarcely cured, when there entered another into the same ward, with an adenoid tumour, such as I have never seen, a tumour weighing nearly twenty kilogrammes (over forty pounds). The harmlessness of this tumour was not the

less clearly manifested, although, according to the commonly-received doctrines, it had every appearance of an encephaloïd, and was foreign to the mammary tissue, properly so called, although of a hypertrophic composition under the microscope.

Practice and science concur, then, in demanding that, provisionally, at least, adenoïd tumours be not confounded with simple partial hypertrophies of the mamma, not more than fibrous bodies with the hypertrophies of the uterus.

I have found the classification of true cancers to be a matter of great difficulty. Microscopic inquiries, the aid of which I solicited in 1830, and which I have favoured on all occasions, have not, in my opinion, furnished ideas sufficiently fixed to serve as a basis for a good determination of tumours. I have elsewhere proved, without the possibility of a reply, I believe, contrary to the pretensions of the more advanced micrographers,—1. That the cellule called cancerous is not the specific element of cancer. 2. That cancers, well proved to be so, do not contain this cellule. 3. That this cellule has been found in tumours not cancerous.

In order to remove all doubt in this respect, I have made use only of facts verified by the micrographers themselves, by M. Lebert especially. The Pathological Physiology (*Physiologie Pathologique*), and the *Traité du Cancer* (Treatise on Cancer), of this author, as honest as laborious, show, in fact, that a great number of tumours drawn from my practice have been examined, analysed by himself. We have consequently seen the same facts. If he had confined himself to the affirming the exis-

tence of certain forms of globules in the tumours of which he speaks, if, in a word, he had confined himself to pathological anatomy, I should have nothing to object to him, I should not find myself compelled, with regret, to reject his interpretations, whether theoretical or practical, on the subject of the cancerous cellule.

Without speaking of M. Müller, and of some other eminent German anatomists, who deny the speciality of the nucleated cellule, I may remark that M. Alquié of Montpellier, M. Michel of Strasbourg, MM. Marjolin, Robert, Forget, &c.,* in Paris, have also arrived at conclusions similar to mine.

M. Lebert, and after him M. Robin, have the misfortune, in my opinion, to set down as a fact what is always a question—namely, that a certain determinate cellule forms the element of each kind of tumour. To establish or lay it down as a principle, that every tumour formed of homœomorphic cellules, ought to be arranged with harmless tumours, and that all tumours which possess a heteromorphic cellule are necessarily cancerous, is to advance too fast, to conclude too hastily. To assert that cancer of the lips, face, anus, uterus, penis, integuments in general, are merely hypertrophied follicles or masses of epithelium; that warts, corns, horny productions, steatomas, and these kinds of cancers are identical,† must appear, even *à priori*, always strange to experienced surgeons. Before Sertuerner, analysis could discover nothing in opium but the elements of gum; was it

* *Union Médic.*, 1852-1853.

† See Mayor, *Thèse*, 1856, No. 8.

legitimate, then, to conclude that gum and opium are identical?

As a consequence of his doctrine, M. Lebert has not hesitated affirming that ulcers, pustules, tumours, vegetations of the lips, face, &c., studied by surgeons under the name of *noli me tangere*, corroding tetters, cutaneous cancers, were not cancers, were only *pseudo-cancers*, *cancroïds*; and that when completely removed by the knife, these tumours are not susceptible of being reproduced; and that thus may be explained why cancers of the lips, for example, return only in the spot, and are not in general followed by any relapse.

Two errors exist in these propositions: first, it is not true that cancers of the lips are exempt from relapses; perhaps even they return as obstinately as cancer of the mammæ. It is certain also, that once operated on, they return as readily at a distance as in the spot of their origin, and that they may become generalized. I knew this ten years ago as well as now; but the micrographers objected to me at that time, that hitherto, in practice, epithelial tumours had been confounded with true cancers, and that on this account the observations made prior to modern researches were of no value in settling the question. A similar conclusion of *non-recevoir* (not admitted) could have no value in my eyes; for it was easy for me to see that the cancroïd is for certain the disease which surgeons have always operated on under the name of *cancer*.

Nevertheless the fact, issuing from such a person as M. Lebert, deserved being inquired into. I accordingly set myself again to the work. All the cancroïds which

I met with have been submitted to the microscope, and I do not hesitate affirming that the micrographers have never seen me mistake a tumour of this kind for another at the bed-side of the patient. Now, my latest practice has demonstrated the fact, that pseudo-cancers relapse or reappear like real cancers, with a deplorable tenacity.

No longer venturing to deny the fact, M. Lebert at first replied, that the relapse might depend on the circumstance that a part of the disease had escaped the bistoury. New error: the cancroïds do not return only in the neighbourhood of the original pustule; they appear under the jaw, under the ear, in the lymphatic ganglions of the neck, as well as on the confines of the cicatrix. Driven from this ground, the cellular doctrine entrenches itself in another proposition as little secure as the preceding: if the cancroïd spreads occasionally to a certain distance from its original seat, it is only, however, say the partisans of this doctrine, in the lymphatic atmosphere of the region; and it is never observed to spread to the viscera. If it multiplies, in fact, it is after the manner of scrofulous tumours, of tubercles, but not like true cancers. Vain refuge, which sound observations also destroy! I have seen cancroïd of the lip reappear without any continuity in the thickness of the bones, in the body, in the branch of the jaw, sometimes on the same side, sometimes on the opposite, and sometimes even in the upper jaw when the disease had commenced in the lower half of the face. I have, moreover, seen it reproduced in the liver and elsewhere. I have seen still more. In a man in whom the labial cancroïd, removed

two years before, contained only epithelial elements, the secondary tumour, which developed itself under the jaw and in the parotid region, presented a considerable proportion of cancerous cellules ! In a patient of M. Maisonneuve, the tumour of one half of the jaw abounds with these cellules ; the relapse took place in the other half of the bone, and this new tumour, removed after some months, contained only fibro-plastic elements ! The examination of the specimens was made by the most expert micrographers.

Thus, let there be no illusion : the cancroïd is a cancer, it destroys, it disorganizes step by step ; it spreads by continuity and by dissemination, in the neighbourhood, and at a distance by the lymphatic system, or in some other way, like cancer : it never heals of itself, and terminates always by causing death : no treatment, whether topical or internal, is of any avail ; and its destruction, by the bistoury or by caustics, is pretty nearly as often followed by relapse as cancer properly so called.

But even if it re-appeared only in the lymphatic region of the part, so soon as its fatal character is admitted, what advantage would follow the not viewing it as a cancer ? To say that death takes place by the disorganization of the parts attacked, and not by general infection, could scarcely console the patient, I presume, since in one way or another he must perish.

The fibro-plastic cellule is in the same category as the epithelial cellule. It has never seemed to me possible that an element which forms the basis of the natural fibrous tissues, of the phlegmasic indurations, of indu-

rated chancre, of hypertrophied ganglions, of fibrous bodies of the uterus, of conjunctival vegetations, &c., can be at the same time the specific element of malignant tumours. Astounded themselves with the fact, the micrographers have endeavoured to introduce all the fibro-plastic productions into the category of harmless tumours, although many of them had been hitherto arranged with cancers, and unfortunately must still be left with them.

The napiform* tumours, chondroïd, although fibro-plastic,† do not return only in the spot of their origin, or because a part of the disease remains after the operation : like the cancroïds, like cancers, they return especially by reason of their proper nature. After the amputation of the limb, of the foot, or of the hand, I have seen them return in the body of the thigh or of the arm. When they return, it is even somewhat rare that it takes place in the lymphatic ganglions, although neither is it by continuity of tissue.

Amongst the examples of generalization of these tumours, drawn from my practice, there are three which seem to me to decide the question beyond appeal.

An adult, thirty-two years of age, Siméon Delaporte,‡ was thrice operated on for chondroïd tumours of the thigh : the disease still returns, and the limb is removed. Some months afterwards the patient dies, and at the *autopsie* a number of fibro-plastic tumours are discovered

* Or *napacée*, terms applied by botanists to roots resembling a turnip.—Tr.

† Fibro-plastic, usually called myeloïd in England.—Tr.

‡ See Giraudet, *Thèse*, No. 184, Paris, 1852.

in both lungs, tumours whose nature has been proved by the microscopic examinations of M. Verneuil and M. Follin, who transmitted me the following note to form a sequel to the observation of M. Giraudet :

“The right pleura was several fingerbreadths thick, and both lungs contained a great number of kernels of various sizes, of a tissue analogous to that found in the stump.

“A careful microscopic examination detected in these pathological productions only the usual elements of the fibro-plastic tissue: in the pleura, the fusiform bodies were well developed; in the medullary tissue of the femur, some perfectly distinct fibro-plastic globules were detected.”

A young girl, strong, perfectly well formed, entered the hospital for a napiform tumour of the upper part of the left arm. This tumour, which acquired suddenly the volume of the body of an adult, by softening caused death in some months. At the examination of the body after death, the lungs were found to be filled with tumours of the same character. In the third case it was a sarcocele in a young person; after castration, new tumours became developed in the belly.

Before death, the micrographers, trusting to the presence of fibro-plastic clews, to the absence of the cancerous cellule, maintained, against my views, that these three cases were examples of homœomorphic tumours, harmless consequently; and in the dead body they demonstrated the fibro-plastic nature of the internal tumours. The case of sarcocele occurred in 1847. M. Lebert sent me on that occasion three lengthened notes,

relative, the one to the tumour of the scrotum, another to the tumours of the belly during life, and the third to the results of the *autopsie* ;* notes which show, all three,

* AT THE TIME OF THE OPERATION.

"A young man, of eighteen years of age, in the service of M. Velpeau, has a fibrous sarcocele of the testis. Castration has been performed; the tumour was considered to be cancerous; nevertheless, it scarcely has the characters.

"Pressure of the tumour does not anywhere produce a juice resembling the cancerous, and on scraping it with a scalpel, nothing appears but a transparent liquid, like synovia.

"Examining the tissue of this tumour under the microscope, it is easy to be satisfied that it is merely an ordinary or fibro-plastic tumour, and one even of the best conditioned.

"In some places the fibrous tissue is completely organized, including in its meshes numerous plastic nuclei."

BEFORE THE DEATH OF THE PATIENT.

"DISTINGUISHED PROFESSOR,—I do not wish you to consider what I said to you this morning, respecting the patient attacked with a consecutive abdominal tumour, as a retractation of the opinion I offered in respect of the sarcocele removed from the same patient some time ago by operation.

"It evidently differed from ordinary cancerous sarcocele: it wanted the lactescent cancerous juice, it wanted the plates of the substance having a tuberculated appearance. The microscope did not enable me to discover the cancerous cellule, but fibres, narrow fusiform bodies, and fibro-plastic globules. I maintain, then, that the tumour had *not the characters of cancer*, but those of *fibroid tumours, fibro-plastic, fibro-colloïd, &c.* Nevertheless, the examination of the actual state of the patient makes me suppose that he is attacked with a cancerous cachexia, and that he has tumours of a bad character in the abdomen, although it be not impossible that these are not cancerous tumours which, merely by their development and by their compression of important organs, have caused considerable disturbance in the economy.

"I admit it to be an exceptional fact, this coincidence of a fibro-plastic tumour with cancerous tumours in the abdomen; nevertheless, theory must always yield to facts and observation, and what we recognise abnormal in a fact, even when it does not chime in with the other results of our researches.

"Nevertheless, you who exhibit so superior a sagacity in the appreciation of facts, and in clinical instruction, will comprehend that one may

how the author struggled against a truth which it is no longer permitted him to elude.

admit frankly a fact as contrary to the result of preceding observations, without being in the least degree shook in respect of the truth of doctrines suggested by hundreds of carefully-made observations.

"I owe you so many kind attentions, you have afforded me so many opportunities of instruction respecting the structure of many morbid products, that I should be happy if I could show you the results of researches which you have assisted for so long a time, and which must infallibly play more and more a part in the study of the intimate nature of diseases, purified, however, in time, from the errors inherent in new and very difficult researches."

AFTER THE DEATH OF THE PATIENT.

"I assisted this morning at the *autopsie* of the young man afflicted with abdominal tumours, consecutive to an operation for sarcocele. It is certain that the rapid progress of the disease (nine months in all from its commencement), the rapid development of the tumours in the abdomen since the operation, finally, the general cachectic state, militate in favour of the diagnostic given by you. Nevertheless, the microscopic examination of many morsels taken at the *autopsie*, show no globules characteristic of cancer, but simply those of the fibro-plastic tissue, as in the testicular tumour you removed from this young man. There is then, on one hand, the course, and several of the principal symptoms of cancer; but on the other hand, a notable difference in the elementary structure, a difference also proved, independently, by M. Corvisart.

"As on the other hand, the fibro-plastic elements are found in tissues evidently not cancerous—as, for example, in the small vegetations of the conjunctiva, after the operation for strabismus, such as the lardaceous tissue which surrounds joints attacked with chronic inflammation, &c.,—it appears true that one may view this case as a general diathesis of fibro-plastic tumours, having a progress analogous to cancer.

"Thus, whatever explanation be given of this fact, it is always certain, that the characteristic element of scirrhus and of the encephaloid is not present, despite the resemblance which the tissue has to the encephaloid, and which the progress of the disease has to that of cancer.

"Receive, in the mean time, distinguished Professor, the assurance of my high esteem, and of my profound gratitude for the instruction I have so largely derived from your lectures, and from the numerous specimens you allow me to examine.

"H. LEBERT.

"May 16th, 1847."

It is, then, a fact acquired. The microscope finds only homœomorphic cellules in tumours which, in fact, run their course, and terminate absolutely as cancers do.

There remain the scirrhus and the encephaloïd. Can we, in respect of these two forms, at least, accept the results furnished by the microscope? If it be erroneous in what concerns the caneroïd and the chondroïd or the fibro-plastic, the evidence furnished by the microscope runs great risk of being at fault in the question of cancers. Since different forms of cancers may exist with homœomorphic cellules alone, the heteromorphic cellule is clearly insufficient, in fact, to characterize cancer: I have elsewhere, as has been seen, proved that this last cellule is wanting in true cancers, and that it is found in tumours which are not cancerous. Numerous facts beyond all dispute permit me, besides, to affirm that tumours, that cancers possessing the special cellule the most distinct, the most complete, a model cellule, in fact, once removed, may not reappear.

The preceding remarks must not, however, induce any one to rank me with those who despise the microscope. I accept, on the contrary, the new facts which this instrument has brought to light, facts of which I contest only the interpretation or the applications; amongst others, I do not deny that there exists between the cancerous cellule, properly so called, and the cellule of other kinds of tumours, a notable difference, easily observed. I admit, also, that this kind of globule, that is to say, the cancerous, is absent, in fact, in most harmless tumours; clinical experience having long proved, on the other hand, that these tumours differ in fact from cancer, I

find that the microscope entirely confirms in this point of view the results of simple observation.

Only I add, that, were it reduced to these terms, the question cannot be solved but with reserve. Tumours in which the micrographers have found neither the cancerous cellule nor nuclei, are not the less true cancers in the estimation of surgeons. I have the conviction that the cancerous element is a special element, and that if we do not find it in certain tumours really cancerous, it arises from this, that it is not sufficiently known. Perhaps also there are several sorts of cancerous globules. So little time has elapsed since these questions have arisen; these globules have been studied hitherto by so few competent men; the whole subject forms, in fact, a world so new, that on this subject science is only in its dawn, at its commencement; and that though taking into account what the microscope has furnished of the positive, I recommend the young generation not to forget what the experience of ages, what clinical observation, have on their side rendered incontestable.

To sum up: what I contest is, that henceforward the cellule called cancerous be considered as the character *sine quâ non*, the initial element of cancer. The diagnostic value of this cellule, already shook by the labours of M. H. Bennet, of M. Virchow, of M. Courty, must altogether disappear if M. Mandl, who finds cellules identical with the cancerous cellule in the healthy lung, succeeds in demonstrating the correctness of these assertions.

The question of relapse is, besides, surrounded with innumerable difficulties. Of 250 operated on who sur-

vived, I have lost sight of 100 at the end of a year, 150 at the end of two years, 200 at the end of five years. Of the fifty others, I find twenty who continue well after five, ten, fifteen, and even twenty-five years; but what has become of the others? The relapse being actually possible in three, six, ten, and even twelve years after the operation, I do not see how an exact statistic of definitive cures is to be established, nor how it would be possible to refute completely the prognostic of the partisans of the cellule in cancer. Thus Madame Lamb——, Miss Gu——, Miss Car——, Madame Y——, whom I saw in November, 1853, whom I operated on in 1850 and 1851, and who continue well now, will they remain so next year? The same may be said of the patients whom I have mentioned at pages 82, 146, 167, 168, in whom the operation took place only two, three, or four years ago. There is no room for doubt, as appears to me, as regards the patients mentioned at pages 145, 165, 174, 175, 176, &c., since their cure has continued for twenty-seven, twenty, fifteen, and ten years. It is the same with a lady, An——, on whom I operated with Mondat, in 1832, whom I never saw since, but whose cure I assured myself had continued to November, 1853.

I agree, then, that in this respect it is difficult to prove to micrographers that they are in the wrong. It will always be lawful for them to say, that if the relapse has not yet occurred in these patients, it will take place hereafter, in those whom I give as cured; or to maintain that the microscope not having been employed, the cancerous nature of the disease may be questioned in respect of cures of an ancient date. But I have too

much confidence in their good faith to dread a similar line of argument. Discovering that they have been too hasty in arriving at conclusions, they will resume their labour, without losing sight of the ideas with which the microscope has already furnished them. They will thus arrive, I firmly believe, at some other discovery, at a result more decisive in the determination of cancers. No one more than I most assuredly desires this ; and I shall feel always obliged to MM. Lebert, Robert, and Follin for the kindly readiness with which they have examined the tumours I have entrusted to them with this view.

The importance of the subject will justify, I trust, in the eyes of surgeons, the preceding pages, and those which I have devoted to it in different chapters on cancers and adenoïd tumours.

Having only to consider tumours of the mamma, I might have omitted all discussion of these questions ; but in this way the work would not have been on a level with the science, and I should have run the risk of being misunderstood. Nevertheless, it formed no part of my plan, whilst considering only tumours of the breast, to enter fully on the history of the various problems of pathology or of micrography which concern cancer in general. The science is in this respect at a period of renovation which permits me, as I think, neither to stop short of what I have done, nor to advance farther at present, without stepping beyond the reasonable, the useful, and the true.

Most of the observations made use of in this work have been collected under my own observation, and according

to my directions, rather than by myself. From four to six young persons have been charged with this duty, annually. More than a hundred medical men have in consequence taken part in the labour. Among the most distinguished, I consider it a duty to mention MM. Richet, Jarjavay, Deville, Gubler, Delpech, Follin, Morel-Lavallée, since become men of note, Associates of the Faculty, physicians or surgeons of hospitals; also MM. L. Corvisart, L'Allier, Blain, Tenain, Demeaux, Blot, Poumet, Gimelle, Boulard, Houel, Béraud, Foucher, who have already taken honours in several *concours*. To name all those who practise with distinction, whether in the departments or in foreign countries, or who, in Paris itself, remain content with the status of simple practitioners, would be too long. I must still make mention of the names of two younger students, MM. Barbereau and Roby, who assisted skilfully in the drawing up my statistical tables, and that of M. Camus, who drew a great part of the tumours represented in the engravings.

I admit also, that in many of its parts this work is merely a sketch, and that in a scientific or doctrinal point of view, as well as in a practical, it must look with strong expectation to the future. Occupations of all kinds, the exigencies of numerous duties, have, besides, prevented me from devoting to the composition all the requisite time.

The questions it embraces are not of those which may be solved in a day, or at will. The facts they require cannot be invented; it is necessary to wait until they present themselves.

Let others now discuss, elucidate, the disputed or obscure points, and I shall congratulate them without an after-thought: my most sincere wishes will follow everywhere those labourers whose object will be to place in a clear light what remains of the mysterious in the subjects I have treated of, in the questions I have raised or discussed.

PARIS,

December 15th, 1853.



A TREATISE
ON
DISEASES OF THE BREAST,
ETC.

ON DISEASES OF A MALIGNANT NATURE, OR OF CANCERS
OF THE MAMMARY REGION.

CANCER of the Mamma differs neither in its nature nor in its form from Cancer of the other parts of the body. I require not, therefore, to treat of Cancer here as a whole. Nevertheless, as Cancer of the breast is the most frequent of all, and as it is it which serves as a type to the descriptions, to all the discussions on Cancerous Diseases, I shall be obliged to enter, while speaking of it, into numerous details relative to the Pathology of Cancers in general.

CHAPTER I.

VARIOUS FORMS OF CANCER.

SUPPOSING that pathological anatomy ultimately succeeds in demonstrating cancer to be always and everywhere essentially the same disease, it will still be evident that it offers itself to observation under a variety of forms.

In the mamma it shows itself under three principal forms: the scirrhus, the encephaloid, the fibroplastic; which seem sometimes to be associated, but which for the most part preserve, from the commencement to the termination, clinical characters perfectly dissimilar. The melanoses, the keloïds, the epithelioms,

are very rare. After having studied the matter carefully in woman, I shall say a few words on cancer of the mamma in man, and then in the infant.

ARTICLE I.—SCIRRHUS.

In the mamma, as everywhere else, the scirrhus itself appears under different aspects. Thus we observe the scirrhus, properly so called, or the ligneous scirrhus, with its branches or roots; the lardaceous scirrhus; the disseminated scirrhus; the scirrhus in plates, &c., susceptible of being reunited in the same mamma. These various forms or varieties of scirrhus are also met with separately in a certain number of women. With many learned strangers, with Abernethy and Scarpa, amongst others, scirrhus alone is cancer.*

§ I.—*Ligneous or hard Scirrhus.*

I give this name to a kind of tumours the dominant character of which is, the density, the inextensibility of wood, to be without fixed limits, and to be continuous, without a line of demarcation, appreciable, with the neighbouring tissues. I have met with four principal shades: under the form of masses more or less voluminous, semi-globular, in the depth of the tissues, this is the *scirrhus, properly so called*; under the form of *plates* or of a *cuirass*, the *tegumentary scirrhus*; under the form of tubercles or pustules, the *disseminated* or *pustular scirrhus*; and under the form of a dry and retracted ulcer, the *atrophic scirrhus*.

A. *Scirrhus, properly so called, or globular.*—Characterized by a sort of rugous tumour, unequal, slightly knotted; instead of being *rolling under the skin*, as is generally believed, and as A. Berard† still asserts, this kind of cancer gives the idea of an indurated portion of the

* A. Berard, *Dict. de Médecine*, t. vi. p. 286.

† *Thèse*, 1842, p. 91.

mammary gland, and not of an independent mass, which may be moved or displaced in the midst of the normal tissues, with which, on the contrary, scirrhus is manifestly continuous on all sides. Very hard, plainly *ligneous* in its centre, the tumour loses its consistence by degrees as we trace it from its centre or principal nucleus. It seems as if this were a focus whence proceed, under the form of radii or rays, lamellæ or shoots, either the fibro-cellular basis or the adjacent lobules of the mamma. Moveable with the glandular tissue between the chest and the integuments in its first periods, the scirrhus often ends by acquiring depth, and by contracting adhesions with the ribs or with the intercostal muscles; but before reaching these it almost constantly lays hold of the skin, which it seems to attract towards it, and which speedily can no longer be separated from it, nor even distinguished.

It is seldom that the scirrhus continues beyond a few months, and acquires a certain volume, without the integuments covering it becoming wrinkled and depressed, acquiring a greyish tint, or putting on the dotted appearance of the honeycombed or figured plates of the intestine. This last character is so strictly pathognomonic that it is sufficient alone, when met with along with the adhesion of the skin over an indurated mass of the bosom, to permit us to affirm that we have before us, or under our eyes, a scirrhus; by observing it simply with the sight, an experienced surgeon may boldly diagnose a cancer.

The globular scirrhus seldom or ever presents large knots or swellings; it is also rare that its size becomes considerable. In general it is about the size of an egg (of the common fowl) or of a walnut; beyond these dimensions it enlarges, sends out expansions in different directions, like roots, or it ulcerates. At the outset or commencement, this kind of scirrhus is difficult to be recognised; it is distinguished only by a somewhat exaggerated density of the mammary tissue. An attentive exploration with the finger makes it discoverable as a

small kernel, giving readily the idea of a glandular lobule indurated and inflexible. Around this kernel the gland appears to be somewhat less supple, somewhat less extensible, than in similar points of the sound side, or in the rest of its extent. At this first period, it is often impossible, notwithstanding, to distinguish with certainty the scirrhus from a simple inflammatory induration, from a small harmless hypertrophy. Only when the scirrhus, even at its commencement, is not unfrequently accompanied with shooting pains, with a feeling of constriction in the mamma, it is difficult not to recognise it so soon as its development has acquired some extension.

Even to the end, this kind of scirrhus maintains its hardness, its ligneous character; it is towards the skin that it ends by ulcerating. The ulcer, which then hollows out the surface, is usually dry, of a reddish grey colour, sometimes violet, sometimes ecchymosed; its edges are often thin, and as it were cut out into a peak. Frequently, also, its edges become knotted, or surrounded with reddish tubercles, raised above the surface of the skin, and ending in some women by becoming hollowed out underneath. From this point the progress of this scirrhus does not differ in a decided manner from that of the varieties which remain for me to point out.

B. *Radiated or branched Scirrhus*.—A variety of scirrhus I have often observed, and which is only a dependence of the preceding species, is that which I described in 1826 under the name of *Branched Scirrhus*. This form, on which authors have not sufficiently insisted, is evidently connected with, or dependent on, a special hardening of the cellular tissue.

OBSERVATION I.—*Forty-eight years; Scirrhus with fibro-cellular radii; extirpation; unsuccessful.*

A very robust woman, having never been ailing: operated on the 3rd June, 1824, for an enormous tumour of the bosom of two years' standing. It was required to remove a large portion of the pectoral muscle, and to

scrape the ribs, but with all this it was not certain that all the diseased parts had been removed. A circular wound, having more than nine inches in diameter. Moderate reaction. The 1st July the wound is reduced to the size of the palm of the hand. The limbs have soon become infiltrated; the chest seems insensibly to become contracted on the affected side, so as to render the respiration short and painful. The wound puts on a wan or pale look. Serous suppuration. No new vegetation appears. Although this woman must evidently sink soon, it appears doubtful if any cancerous tumours be developed in the viscera. Death at the end of some months. On the inspection of the body, about two litres (3·52 pints) of a reddish serosity were found in the cavities of the pleuræ. No scirrhus or cerebriform tumour; no other accidental production could be found in any other part of the body.

The amputated mass weighed two pounds: it comprised the entire mamma; a thick layer of adipose tissue, and in the centre a fibrous kernel, lardaceous, yellowish, very hard, very elastic, crisping under the scalpel; continuous by so many *radii* or rays with the cellular septa traversing the mamma, and proceeding to lose themselves, diverging into the surrounding cellular tissue: in proportion as we remove from the centre, these *radii* become more and more supple, and assume, little by little, the character of natural cellular tissue.*

I may add, "It is evident to me, that here we have not an accidental production, but a degenerescence, and this opinion I support on numerous observations." Taking up another point of view, I also said, "Here is a case where death has been the natural consequence of a loss of substance too large to admit of the wound becoming completely cicatrized.

"A form of scirrhus wholly special, the *radiated scirrhus*, exposes the patient to this kind of termination, and I shall have to trace its history after many other facts collected since 1824."

* *Archiv Gén. de Méd.*, 1826, t. xii. p. 511.

In the preceding species the tumour preserves readily a globular appearance; without much difficulty may be seen how far it extends, and where it stops: the skin, which adheres to it, is not depressed, does not degenerate nor ulcerate, but at a point and under the form of plates. The *radiated* scirrhus, on the contrary, prolongs itself, in the manner of roots, into the very entrails of the neighbouring organs. It seems that the fibro-cellular septa, the laminae of the aponeurosis serving as the *trame* or basis of the glandular tissue, becoming indurated, undergo the ligneous transformation; hence a tumour, unequal, hard, ill-circumscribed, losing itself insensibly towards the skin or towards the circumference of the mamma, under the form of radii, of bridges, of irregular shoots or trains, or of diverging cords.

Nevertheless, the scirrhus has a central nucleus or kernel, a sort of focus, towards which converge or in which are confounded all the bridges of the periphery. The integuments, which opposite to this kernel are affected as in globular scirrhus, become depressed, often in the direction of one or of several of these radii, especially if indeed, as often happens, there form then, in the diseased bosom, folds, manifest grooves, which become sometimes the seat of an ichorous discharge, of excoriations, of true ulcerations.

It is to this species that the allusion used to be made formerly when cancer was compared to a crab, and it is it no doubt which gave and served as the origin of the name which the disease still has; it seems, in fact, in certain cases, as if the mamma had been laid hold of by an animal, of which the centre of the tumour represents the body, and whose numerous feet or limbs were represented by the indurated radii of which I have spoken. Always, however, be it remembered, that it is then almost impossible to say precisely where the scirrhus terminates, or where commences the absolutely sound condition of the tissues. In cutting into the mamma, it seems as it were divided into compartments by hard lardaceous plates, sometimes of a dead or flat

grey colour, sometimes bluish, crisping under the scalpel. I have often seen the radii of this scirrhus extend themselves very far towards the axilla, curve under the edge of the great pectoral, or scatter themselves in all other directions; and thus it is difficult to extirpate it entirely, to be certain of having left no trace when its removal has been effected.

An observation which must not be lost sight of in the examination of this form of cancer, is, that nothing indicates it to be the result of an exudation of a heterologous creation: it is almost impossible, on the contrary, not to admit that it results from a transformation or from a degeneration of the normal elements of the region.

C. Cuirass-formed or tegumentary Scirrhus.—A form of cancer which pathologists have but little studied, and which seems to me notwithstanding to merit a special examination, is that to which I gave the name of *ligneous scirrhus*, in *plates* or *diffused*, of the mammary integuments. I have often met with it, and with characters so well-marked, that I cannot explain to myself how it had not fixed the attention of surgeons before I pointed out its existence in 1838. The skin, I have said, is its seat of choice: but at its commencement, as at its highest degree of development, it can establish itself also in the other anatomical elements of the region. In some patients it appears only as a complication, at a more or less advanced period, of a different form of the cancerous affection; in others it is it which puts on at the very commencement the characters of schirrus, whether ligneous or lardaceous, in the deepest tissues; but this does not prevent it, in a small number of cases, from attacking only the integuments, from the beginning to the end.

It occupies sometimes a single disc, sometimes several points of the skin, sufficiently isolated from each other. In the first case the integuments, hard to the touch, rugous, coriaceous, thickened, of a reddish tint, have a dotted grey colour altogether anormal; it seems as if they had been tanned, that it is a positive unyielding

leather which has taken the place of the natural skin. In the second case the plates are smaller, and as it were disseminated, but always presenting the same characters.

Moreover, these two varieties almost always exist together, or are not long in becoming commingled: in general large plates exist on certain points, at the same time that a number of small spots are to be seen here and there in the neighbourhood. I have seen patients in whom the bosom was completely covered with them, in whom the ligneous transformation of the skin extended as far as the hollow of the axilla on one side, towards the collar bone, and in front of the sternum on the other. I have seen others, in whom, besides the principal plate, the anterior surface of the chest was beset with small secondary plates. I have seen (Plate IV., Fig. 1) women in whom the whole integuments of the breast were thus transformed into a true cuirass, perfectly inextensible, having some resemblance to the skin of a dead body strongly frozen. Sometimes these plates are slightly elevated above the exterior, sometimes they seem slightly depressed, retracted towards the side of the subcutaneous layer. I have seen some which presented a slightly copperish tint, and which to the eye might have given the idea of a syphilitic affection. By a section it is easy to see that the skin in that case is the exclusive seat of the disease, and that by degenerating, this membrane, sometimes doubled in thickness, has acquired a density which may be compared to the tanned hide of large animals, or to a hog's skin.

At its commencement, the ligneous scirrhus of the integuments does not fix the attention of women; it causes no pain: as nothing exudes, as the skin alone is the seat of the disease, it generally escapes notice, so long as it has not acquired a certain degree of development. The surgeon, however, must not allow himself to be so deceived; and I cannot too strongly recommend him to be on his guard when he observes on the breast of a woman, marbled appearances of a yellowish red, grey plates, dotted, disseminated here and there: if these

spots are permanent (Plate IV., Fig. 1), and if, instead of being supple, of disappearing momentarily under the pressure of the finger, they rest on so many hard plates, thick, inextensible or ligneous, of the skin.

With their seeming harmlessness, these simple spots, which one might be tempted to neglect like the women who have them, are in fact true cancers, cancers of the most detestable kind.

Scattered at first, they end by being confounded, by forming plates of greater or less extent, sometimes even a true cuirass. Whilst the plates first formed become thus united, there arise others in the regions which up to that time had remained sound or unaffected, in such a way that all the breast may in time become similarly involved. After a certain time their seeming benignity disappears; pains come on; the patients experience heat, burning shootings; want of sleep, fits of anguish, agitation, loss of appetite, are superadded; still later the respiration becomes difficult, the breast becomes embarrassed, and feels as if encircled with a hoop of iron, which contracts more and more, and tends to suffocate the unhappy sufferers. The cuirass is in fact so hard, so general in some cases, so completely inextensible; it tends so strongly to contract, to bind, or to diminish the capacity of the chest, that the play of the intercostal muscles, and the movements of inspiration and expiration, cease to be possible.

It is true that before reaching this point the ligneous scirrhus often terminates by ulcerating at different points, or by extending to the subjacent tissues; then the crimpings (*bosselures**) of ordinary scirrhus become developed, establish ulcers around, and it is by the suppuration or by the pain, which may in such cases reach an extreme degree, as much as by the constriction of the thorax, that the patients are carried off. Amongst the unfortunates whom I have seen in this state, I shall mention an English lady, dwelling in the Champs Elysées, and in whom the

* A botanical term, meaning the embossing in bas-relief (*bosselure*) to be seen on certain leaves.—Tr.

entire chest, from the flanks to the neck, from the umbilicus to the larynx, from the loins to the occiput, had undergone the ligneous transformation, and who was besides covered with scirrhus ulcers, with a crowd of cancerous crimplings (*bossetures*) as far as the arm-pits, and even on the shoulders! This poor woman, whose two arms were thrice their natural size, and hard as marble, had the respiration so *small*, so short, that she resembled a person in a state of strangulation, or one whose chest is violently caught in a vice; unable to move arms or head, experiencing at every instant the most atrocious pains, she presented, when I saw her with Dr. Skiers, her attending physician, the most afflicting spectacle which can be imagined, uttering piercing cries, demanding death without having the power of inflicting it, and incessantly praying for some one to administer a dose of opium sufficient to secure an eternal sleep!

In the following observation carefully taken from nature, the patient entered the hospital full of health and gaiety, free from pain, although already both breasts and all the front of the chest were involved, and yet in a month a crowd of new plates appeared on the sides of the thorax, under the axillæ, behind even and above the shoulders. The pains came on afterwards, with their usual character of burning, shooting, so as strongly to disturb the sleep. It is not to be doubted, that this unfortunate woman will soon feel herself enclosed in the cage of iron which embraces her, and that from this time in less than a year she may find herself thus suffocated, although, as yet, there be no appearance of ulceration, of the softening of cancers, and without there being required to produce these results, a repetition of the scirrhus internally.

OBSERVATION II.—*Plated or Cuirass Scirrhus of both Breasts.*

Baillet; thirty-six years; sempstress; unwell for eighteen months; entered the 26th of January, left the 16th of February, 1852.

The parents of this woman always enjoyed good health. The mother died in consequence of childbirth. As to herself she has always been well. With the appearance of a good and strong constitution, she is gay, cheerful, and does not seem at all concerned with the seriousness of her condition.

Delivered about twenty months ago of a daughter, her delivery was easy; for two months she suckled her child, and at the end of that time placed it at nurse. She resumed at this time the use of her corset, which she had left off for some time; this corset was too tight, and inconvenienced her a good deal, especially under the left mamma. She soon observed at this spot a very hard pad (*bourrelet*), not painful; the induration extended around the gland, reached the bosom itself, then all the left side as far as the eighth rib. Four months ago, the right breast, until then unaffected, was seized with the same hardening, which involves also all the space, between the two breasts extending above to the sternal notch, and downwards below the xiphoid cartilage.

January 27th: Actual condition.—Both breasts are a little larger than natural; the left has its usual form; it is larger, more rounded than the right, which is a little flattened, as if glued to the subjacent tissues.

The nipple is voluminous, irregularly swollen or knotted, pediculated, expanded in the form of a cauliflower, especially the left nipple, which is surrounded with a blackish furrow, almost circular, but from which there as yet flows no liquid. The tubercles covering the areola are very large and numerous.

The skin has an erysipelatous tint, reddish here and there, especially to the right; this redness comprises the right breast, the part intermediate between the two breasts, the lower part of the left breast, and disappears under the pressure of the finger, to reappear soon after. The skin, the temperature of which is not increased, and which is tense and shining, presents in certain places a fretted aspect, as if grilled, with small, hard, conical elevations of the size of a large millet seed.

From the tension and colour of the skin, the size of the mammæ, it may be confidently predicted that the subjacent tissues are very dense and hard. The normal mobility of the integuments no longer exists; they seem to form a mass with the other tissues. The breasts are fixed, and polished like marble. By pressure, a hardness, almost ligneous, may be detected in the parts.

The induration comprises the two breasts, and the part situated between them from the notch of the sternum to below the xiphoid appendage; the left side is involved from the axilla to the angles of the ribs backwards, and to the eighth rib downwards. To the right, the hardness, less uniform, less precisely circumscribed, is less extensive, and terminates almost insensibly towards the middle part of the ribs. If the fingers be plunged into the axilla, the tissues, instead of permitting themselves to be depressed as usual, resist, and form, in place of a hollow, one or two pads of a ligneous hardness.

The patient suffers nothing, is not incommoded, breathes with freedom. The movements of the arms are free; she can rise and walk without difficulty, and the limbs are not swollen.

The general condition is good, and there is no fever.

January 31.—The disease is not sensibly increased, only the redness is a little extended to the right, and seems more intense. The patient perceives prickings, a sensation of burning, a feeling of constriction in the throat, and of pain in the back part of the left shoulder. She says that the blood mounts to the head, that she suffers in the epigastrium. Whilst walking she is a little embarrassed in the respiration, and especially in deep inspirations. She has not slept during the night, and has perspired much. The digestion is easy, without weight at the stomach. No fever.

February 2.—The redness extends; the scirrhus gains on the left side backwards and downwards, and likewise on the right side; there may be perceived, especially to the left, some reddish transverse shoots, hard, projecting

above the level of the surrounding integuments, and involving the sound tissues.

The left nipple seems detached from the rest of the mamma by an almost circular ulceration, narrow, somewhat deep-greyish, or rather blackish, cut into a peak, whence flows a sanious, yellowish, ichorous liquid, insupportably fetid, and characteristic.

Feb. 3.—The induration reaches the side of the abdomen; if the patient be seated, there may be seen in the epigastric region two voluminous pads, transverse, and very hard. There are always slight feelings of choking and of constriction.

Feb. 6.—The redness and induration extend to the left, forwards and downwards. The patient feels very acute pains in the middle of the back, under the right arm, and in the left side. The sensation of choking continues; the respiration has been much embarrassed during the night; the suppuration is abundant; the patient sad and dejected.

Feb. 8.—The affection extends on all sides, but especially towards the left. The redness of the skin is somewhat less intense. The circular ulceration of the nipple has extended, and the discharge of a fetid matter continues abundant.

Acute pains, which the slightest pressure exasperates. It seems to the patient as if she were enclosed in a collar of iron; that a body coming from the stomach ascends to the throat and chokes her, and that the bones are bruised or broken (*brisés*) when she desires to make the slightest movement. Fever has come on for the first time, from three in the afternoon until ten at night. No sleep, no appetite. The pulse is frequent, the skin hot.

Feb. 11.—The ligneous hardness extends upwards and to the left; numerous hard, reddish plates may be felt on the lateral and somewhat anterior part of the neck. Both arms are the seat of acute suffering, as well as the left side of the chest and back. The patient turns her head with great difficulty, and can no longer raise her arms. Suffocating attacks are frequent; no sleep; no appetite.

Feb. 13.—The plates which appeared some days ago have enlarged, and now form a continuous whole. The neck is stiff, and cannot be raised above the pillow. The arms are painful; the left arm can scarcely be moved. The chokings are more and more frequent. The patient experiences a sensation of burning, of tearing in the breasts, the back, the arms; it seems to her as if she were enclosed in a vice.

Feb. 16.—Same state; the patient suffers much, but her request to leave the hospital is so urgent, that she was allowed to depart on the 16th of February, 1852.

At the first view, one would say that the skin of these patients had been burned, grilled, or roasted; it seems as if its density, its ligneous nature, heats in some measure all the subjacent tissues, so as to cause them to undergo quickly a similar transformation. Thus, in the woman of whom I have just spoken, both *mammæ* and the enveloping tissues of the chest were confounded with the integuments so as to form but one mass, a single body, as in a marble statue, or a dead body entirely congealed. It is useless to add, whatever certain patients may say, that this kind of scirrhus is independent of all external violence, of all appreciable mechanical cause. A sort of erysipelas or of eczematous tetter has occasionally marked its commencement in some patients whom I have met with. We shall see by and by that it is perfectly useless to attempt its destruction by surgical means.

D. Ligneous Scirrhus en masse.—Frequently also, and I have met with an infinity of cases, the scirrhus seems to involve all at once a large part, and even the whole, of the mamma. If the disease be already of some months' duration, when observed, it presents itself then under the form of a semi-globe, or of a kind of ill-defined hemisphere, but without radii or roots around its circumference. At the commencement, this kind of cancer, which may be divined or guessed at in the description which Boyer* gives of cancer of the mamma generally, occupies

* Vol. viii. p. 223, edit. of 1821.

occasionally only some lobules of the mamma; but its crimplings (*bosselures*) or inequalities end by approaching, by running together. The secreting tissue is always the primitive seat of the mischief; the partitions or fibro-cellular laminæ become involved only secondarily. In general, however, the entire bosom is at the last included. I have frequently seen the mamma thus acquire, during the space of two months, the density of cartilage, without any remarkable deformation. In one woman whom I observed, the left bosom, which was not twice its natural size, represented a hemispherical mass, of the consistence of wood, plated, as it were, or inlaid upon the front of the chest.

My ideas being then less fixed than at present, respecting the nature of this kind of tumours, I decided on operating. The whole of the integuments over the tumour required to be removed, along with the mamma. The wound caused by the operation was reduced to a fifth, and everything seemed to promise a speedy cure, when, at the end of six weeks, I perceived that the right mamma began to be involved in its turn as the left had been some months before. We were thus witnesses at the hospital of a transformation which in two months gave to the whole extent of the mamma the density of cartilage, without the unfortunate woman, who suspected nothing, experiencing the slightest pain: without our being able to decide on the limits of the incessant progress of this singular degeneration, or to note a point of the organ which had been affected before the others.

Contrary to what happens in the first variety of the ligneous scirrhus described above, the scirrhus *en masse* commences and is developed rapidly, the skin being affected almost as soon as the glandular tissue. This membrane, which then quickly loses its extensibility and mobility, adheres to and becomes confounded with the gland in such a way that it cannot be any longer isolated from it. It often becomes wrinkled or dotted whilst hardening, and seems to shrink or shrivel even when the mamma itself augments in volume, instead of becoming

atrophied. We have speedily then, in such a case, the association of the tegumentary ligneous scirrhus, and of the glandular scirrhus diffused or *en masse* in the same tumour. The bosom hardens rather than swells, is transformed rather than deformed, although, notwithstanding it augments remarkably in volume in certain cases, all the anatomical elements of the region become confounded into a knot or lump, the limits of which are never defined. After a variable time, these tumours end, like the other kinds of scirrhus, by becoming depressed or prominent, by softening or ulcerating at one of their external points. From this stage, they become excavated or hollowed out, and the ulcers thus established, though in general remaining sanious, dry, or rugous, become often surrounded with hard festooned or irregularly elevated edges.

The scirrhus *en masse* of the mamma, diffuse or general, is not always a primitive form of cancer. I have often seen it entitled to be called a secondary disease; that is to say, as I have remarked above, it often follows a tegumentary cuirass-shaped cancer. Differing from scirrhus, properly so called, it attacks readily both mammae at once or consecutively. As at first it is unaccompanied by pain, as it does not disfigure the bosom, which then appears simply a little firmer or a little more rounded than natural, the patients do not perceive it at its commencement, and they seldom attribute it to external violence. If later the mamma seems firmly fixed to the walls of the chest, it is less owing to any profound adhesions it may have contracted, than to the hardness, inextensibility, and retraction of the tissues it has appropriated to itself; one might easily say that all the constituent elements of the region thus involved are solidly frozen, or that they have been transformed into a semi-globe of wood or cartilage.

E. *Atrophic Scirrhus*.—It is not unusual to meet with in practice a variety of scirrhus, the specific character of which seems to be to shrivel up the tissues or organs. At first we observe a retraction, sometimes rapid, at

others slow and insensible, of the nipple, which seems to bury itself more and more into the gland, to give origin somewhat later to grooves, trenches, or gutters, which leave it in a radiated manner. The tumour, sometimes flattened, and sufficiently distinct, sometimes somewhat irregularly swollen or armed with roots, presents, towards the skin, a depression more or less large, which continues increasing until it ulcerates or becomes excoriated. The integuments become spotted speedily at other places, and seem then all to plunge into the tumour.

In such a case the mamma, including the scirrhus, loses bulk rather than becomes thickened. One would say that its septa, its fibro-cellular tissue, indurated, transformed, degenerated, had become the seat of a pathological change tending to shorten, to contract them unceasingly in such a way that, whilst contracting like the inodular tissue, they strangle or compress in some sort the scirrhus in their compartments between their last lamellæ. Then, in fact, the whole mamma tends to become atrophied, to be reduced in bulk. It is at this point that pathologists have supposed that this singular retraction was a means employed by nature to effect a resolution, a cure, of certain occult cancers. Unfortunately, this idea is merely an agreeable dream. If the mamma shrivels up, withers under the influence of such a cause, the little which remains preserves no less the character of scirrhus: if the septa, the retractile bridles, end by becoming continuous with the skin, which they draw with such force backwards, it is owing to this that they have themselves undergone the scirrhus transformation; it is owing to this that the teguments, fibro-cellular bridles, or septa, can no longer be distinguished, either from each other or from the glandular tissue, and that the whole terminate, by forming a homogeneous mass or plates, as in the ordinary ligneous scirrhus.

It is true, however, that this kind of scirrhus makes often slow progress; that women may be afflicted with this for years without their health materially suffering:

it is with the atrophic scirrhus that we see women live ten, twelve, fifteen, and even twenty years. Facts of this kind have been cited in great numbers, and I have myself seen a certain number. Amongst others, I saw a Russian lady who was thus affected for ten years, who had consulted the first surgeons of her native country, next of Germany, England, and Italy. Her cancer, represented as a ragged ulcer, of a yellowish red colour, and by a flattened tumour of a breadth of six or seven centimetres (2·36 to 2·75 inches), occupied the lower part of the left bosom, and seemed in some measure concealed under the circumference of the mamma, behind the base of the nipple. This lady, whom Marjolin also saw, and for whom we recommended only a palliative treatment, although her cancer could easily have been removed, remained still for three years under our view, the disease having only increased by a fourth. We then lost sight of her (1843), and I know not what may have since happened to her.

A Polish lady whom I visited with M. Lebert, has a cancer of the left breast, of twenty years' duration. It were easy for me to quote four or five similar facts, but it is still not the less true that these are merely facts purely exceptional, on which it would be highly imprudent to reckon. Almost constantly the atrophic cancer shows itself at an advanced period of life; it is, so to say, the scirrhus of old women. I have, however, seen three or four examples of it in persons who had not reached forty-five years. When it ulcerates, it becomes hollowed out little by little, and furnishes a serous or ichorous discharge, not particularly abundant. The surface is generally dry or sometimes a little velvety. It is not uncommon to see such ulcers become covered with a cicatricial pellicle, to see them even cicatrize altogether in a part of their extent; only, whether they cicatrize or not, whether new ulcers appear or it be the first which continues or persists, the disease continues no less its course, and ends sooner or later by involving the neighbouring organs, and causing the death of the patient.

F. *Pustular or Disseminated Scirrhus*.—The disease of

scirrhus is also frequently observed in the form of pustules, of small rounded or irregular masses; these pustules, of infinite variety in volume, from that of a pin's head to a hazel nut or filbert, appear in certain women as the primitive disease, although more generally they show themselves only secondarily, as a consequence rather or extension of an anterior cancerous disease. Almost always multiple, they occasionally occur as a single one at first. Their number, moreover, is no less variable than their size. I have seen them in one patient from four or five to several hundreds. Their seat of choice seems to be the skin: sometimes they project on its free surface, at other times they seem to proceed from the inner surface of the integuments, to dip into the subcutaneous layer; often also they exist in the parenchyma itself of the skin. In the first case, they appear in the form of grains, of a red colour, more or less pale, hard, indolent, having some analogy with the pustules of ecthyma, with this difference, that they show no disposition to soften or to ulcerate. They are distinguished by this character as well as by their hardness, from altered pilous or hair-follicles, and from all other tegumentary pustules. I have seen women who had thus the mammary region completely covered with them.

In the thickness of the skin it is by the touch alone they can be detected. To do this, the pulp of the finger must be passed gently and cautiously over the surface, first in the region of the nipple, and finally over the whole anterior surface of the chest. In this way we come upon some very distinct indurations, of a globular form, immovable, in the cutaneous tissue, and which do not allow of their being depressed, like the rest of the integuments.

Under the integuments, the pustules may be recognised by the same means, and are not distinguished from the preceding but by a little more mobility and a greater depth. I believed at first that they only attacked the dermis or the subjacent tissue: numerous observations have shown me since that this is not the case,—that the pustular scirrhus is developed as readily in the

cellular tissue and in the glandular parenchyma, as in the skin.

Madame Du—— had in the left breast a lardaceous scirrhus, of the size of a hen's egg, sufficiently well defined. The tumour having been removed, I discovered with alarm that a seed plot of small tubercles of the same nature, like pin-heads, grains of hemp-seed, small lentils, were disseminated through the rest of the mamma, as well as in the neighbouring cellular or fibro-cellular tissue. Nevertheless, the wound caused by the operation cicatrized; but in less than fifteen days from this period, the tubercles which had alarmed me might be felt through the skin, and similar pustules began to show themselves externally, in the thickness itself of the integuments. An infinite number thus became developed. I need scarcely add, that the unfortunate lady, in whom the other mammary region became soon similarly affected, was carried off at the end of some months by the effects of this frightful relapse.

It seems, in truth, that the destructive power scatters at pleasure and with a full hand into the tissues, cancerous grains, or that the economy which is imbued with them endeavours to free itself by rejecting them under the form of molecules or germs into the atmosphere of the mamma!

Although hard or of a ligneous appearance, the disseminated pustules of scirrhus are not, however, always homogeneous in their texture. They are in general less condensed than the scirrhus *en masse*, or in plates; and their consistence, often equal throughout, is often less towards the centre than in their external layers. There are some which undergo in their centre a kind of softening, the centre of which ends by containing a whiter matter, duller coloured, pulpy, or semi-purulent: the work of destruction which goes on then resembles a little that of certain tubercles, or of small concrete deposits of diseased lymphatic ganglions.

Following a relapse, these pustules occupy frequently the neighbourhood of the cicatrix, then they form at a

distance, above, below, without, within; finally, on all sides. I have often seen leech bites become the seat of them; the smallest trifling irritation or alteration of the skin forms their starting point.

Madame de V——, on whom I had operated for the first time for a lardaceous scirrhus of the left breast, and who in appearance seemed perfectly cured, was attacked with a relapse of the same disease on the inner side of the cicatrix, at the end of ten months. The tumour still existed without complication, without any suspicious appearances towards the axilla, without the slightest appearance of any accessory tumour in the neighbourhood, in a woman in other respects robust, young, and of a resolute character. The extirpation of the cancer was again practised at the end of six weeks. Then, when the cicatrization was all but complete, I remarked above, and soon afterwards below, and in less than ten days, within the wound, three small hemispheric pustules, reddish, of the size of a pin's head, elevated above the skin like a small-pox pustule on the third day of the eruption, and which the patient thought were leech bites a little indurated.

These pustules, which did not prevent the wound from closing definitively, increased in number by little and little, without exceeding in size a grain of hemp seed, or at the most a small pea. In the space of three months the leech bites, the result of former applications, made with a view to obtain the resolution of the scirrhus, became sensibly transformed into so many small scirrhous tubercles (*boutons*). Singular enough, three small pustules of this kind established themselves on three different points of the cicatrix, without any scirrhus forming under the integuments: these small cancerous pustules forming there followed the same course as all the others.

The family of this lady, alarmed at my unfavourable prognostic, consulted other practitioners, and I learned that she sunk in 1853, after having submitted to all sorts of treatment, which they said had cured her.

G. *Scirrhus of the Lactiferous Ducts*.—A kind of cancer which has not as yet been described, so far as I know,

and which I have met with five or six times, seems to commence in the galactophorous canals. The first tumour of this kind which I removed was in the case of a woman whom I treated in 1833 at the Hôpital de la Pitié. The pathological specimen, cut across, resembled the rose or snout of a watering-pan; by pressure, an abundance of the cancerous juice could be forced out in the form of drops. In dissecting it we found it loaded with numerous hard lardaceous hollow stalks occupying the place of the natural canals of the gland. Already the wound was two-thirds cicatrized, when, towards the axillary angle, it became the seat of an ichorous exudation. Perceiving at this point three open orifices of about a line in diameter, with the greyish aspect of venereal chancres, and seemingly continuous with some vascular or other canals, I concluded that the disease was about to return. Lost in the centre of indurated masses, these small ulcers allowed a probe to pass to a depth of three or four lines. As they were painful, and the neighbouring ganglions had begun to enlarge, I seized them with a hook, and did not hesitate extirpating them. The wound cicatrized; an abscess which formed in the axilla was opened, and disappeared; but new cancerous masses formed at the end of some months around the cicatrix.

In a woman on whom I operated in La Charité, the tumour, which was of eighteen months' growth, had been preceded by a regular lactation, and could not be ascribed to any external violence. Somewhat flattened, scarcely painful, it was about the size of half an ostrich egg, and occupied all the right breast. Slightly embossed* or raised in relievio, without adhering to the skin, without any circumferential bands or roots, it presented on dissection a disposition quite peculiar. In consistence it did not differ sensibly from that of scirrhus, but its section, instead of being homogeneous, was dotted with grey spots, scattered over it like granite, covered with an infinite number

* *Bosselees*, a term used in botany, and applied to certain leaves which have eminences in large meshes, and hollowed out beneath: *eminences grands mailles et creuses en dessous*.—Tr.

of gaping orifices, which gave it the appearance of a sieve or skimmer. These orifices, which showed themselves whatever way the tumour was divided, and which were several dozens in number, had a diameter of from one to three millimetres (from 0.03937 to 0.11211 inches). In part filled, or as it were lined internally, with a cheesy-looking matter or tubercular concretion, they were obviously confounded externally with the tissue of the mamma, and followed everywhere the direction of the lactiferous ducts; moreover, it was easy to introduce a probe, and thus to follow their course for several centimetres.* We could in this way reach by several of these the base of the nipple, and became satisfied that we had to do with the excretory canals of the gland: all the other constituent elements of the region were besides indurated, transformed as in scirrhus, and it was absolutely impossible to distinguish the glandular lobules from the cellulo-fibrous septa.

We were particularly struck with the greyish tint, not coloured or even a little reddish, with the aspect *œil de perdrix*, or of small chancre, of the orifices of these various canals. The patient, who was still young, completely recovered. Operated on in 1835, I saw her in 1836, and nothing indicated in her any likelihood of a relapse.

At the period I speak of, the microscope had not been used for the determination of tumours; but everything indicated in these patients the existence of a scirrhus or of a cancer. It may be conceived, that in the midst of a ligneous mass, tumours which present otherwise all the characters of a scirrhus tissue, it is difficult to determine if such small tubes be the excretory canals of the mamma, or small veins, arteries, or lymphatics. With the last fact of which I have spoken, one need not hesitate to admit that the canals seen there were the lactiferous; but in my first patient, how are we to ascribe to galactophorous tubes what we met with towards the axilla, a region so distinctly separated, and so remote from the

* A centimetre = 0.393708 inches.

mammary gland? If M. Giraldes,* and especially M. Sappey,† had not succeeded recently in demonstrating that the mamma possesses a large supply of lymphatics, I should consider as inevitable that my observations had a reference to a cancerous degeneration of the excretory ducts of the mamma: in the presence of the results to which these observers have arrived, it appears to me prudent to reserve all decisive opinions on the subject.

In whatever way we view the matter, this form of cancer merits being considered as a distinct variety. Its physiognomy differs so much from the others, that it surprises at first sight, and naturally fixes the attention. In two women it occupied only a fourth of the mamma; in two others it seemed to have involved it wholly; in two cases the tumour was thus spotted only in some parts of its substance.

One of these tumours was so hard, that in cutting it the scalpel caused a noise analogous to that which the instrument occasions when it meets with chalky plates in the midst of the tissues. In fact, in these cases some of the small tubes with open mouths were, as it were, petrified or ossified. The principal mass could not be separated from it, and it seemed composed of well-marked scirrhus. The cancerous juice could not be always so clearly distinguished, seeing that if it existed it was not possible to isolate it from the concrete matter enclosed in the scirrhus tubes, excepting always in the patient treated in the Hôpital de la Pitié. Not having recognised it before the operation, not knowing exactly what has become of the patients since they were operated on, having, moreover, examined this kind of scirrhus only in a few cases, the general history I might give would be evidently premature; I have therefore no other intention at present than to call the attention of pathologists to it, and to engage practitioners not to confound it with the other varieties of cancer.

* *Anat. Chir. de la Région Mammaire.*

† *Communication Verbale.*

§ II.—*Lardaceous Scirrhus*:

another variety of cancer, which seems to me also to belong to scirrhus, but which is not the ligneous scirrhus, which occupies almost exclusively the mamma, and shows itself generally under the form of a deep-seated mass. It is probable that at the commencement this kind of cancer involves only some lobules or some laminae of the region. I have seen it only in the condition of a tumour already large. It must also be admitted, that at the beginning it is with difficulty to be distinguished from certain sub-inflammatory or hypertrophic indurations.

However this may be, the lardaceous scirrhus is met with under the form of hemispherical tumours, somewhat unequal or slightly embossed or in relieve on the surface. For a long time it remains independent of the skin, of the subcutaneous layer itself; a large portion of the mamma is generally attacked at the same time, and the tumour is continuous, without a line of demarcation, with the glandular parenchyma. No branch, no root, seems to emerge from it, to lose itself by radiating in the neighbouring tissues, like the branching scirrhus. The gland which is the seat of the disease is manifestly thicker, harder at the diseased point than elsewhere; and the tumour at first has no tendency either to be depressed or retracted more in one sense than another. Its density is, moreover, sensibly less than that of the ligneous scirrhus, but yet sufficiently so as not to be confounded with the softness of encephaloïd cancer. Nor is it the elastic consistence of fibrous tumours which it presents; one is disposed rather to find in it a certain analogy in this respect with the adenoïds, from which it differs, however, essentially in other respects, by its evident continuity with the normal tissues of the region, by its want of globular relief, of mobility amongst the anatomical elements which surround it.

I have met with two varieties of this cancer, one which involved at once all the mamma, as in the ligneous scirrhus *en masse*, of which, after all, it is but a variety.

The mamma, seized in this way, increases in volume, hardens, and soon becomes confounded intimately with the integuments; only there is this difference between it and the ligneous cancer *en masse*,—the lardaceous cancer, under this form as under the other, is susceptible of a considerable increase, and has not the consistence of wood. Its hardness has a character which the term lardaceous seems to me sufficiently to characterize. In the other form, which I have chiefly met with in women having a certain *embonpoint*, the tumour, at first somewhat deeply situated, seems as if lost in the middle of the cellulo-adipose tissue of the mammary gland. It grows afterwards with a certain slowness, generally very rapidly in all senses. Differing from the ligneous cancer, it reaches the integuments only very late.

In a patient of Dr. Denis, Madame L——, this kind of tumour remained as it were lost in the depth of the bosom for more than six months, before being distinctly appreciable under the skin. The tumour, which exceeded the size of the fist when I removed it in 1848, was even then quite independent of the integuments.

It becomes painful generally only at a very advanced period of its development. With age it rarefies, or tends to soften rather than to harden or to retract. If time be given it to complete all its phases, it gains at length on the side of the skin which it has appropriated, which now inflames and ulcerates; hence a cavern, a putrilaginous excavation, sometimes profound and winding, sometimes superficial and sufficiently regular.

Many women have this kind of scirrhus for several months without having the least suspicion of its presence, and do not become sensible of it until the tumour already exceeds a large egg in size. A countrywoman, sent to me by Dr. Béhier, strong, not married, and only thirty-two, of a superb appearance, had in the left bosom a tumour of this kind, almost as large as the fist, without ever having imagined that it was a serious disease.

Another lady who came often to consult me, had th

whole of the left bosom transformed into a lardaceous mass; the teguments, the cellulo-adipose tissue, the fibro-cellular tissue, and the glandular tissue, were confounded together, so as to form a semi-globular homogeneous mass of the size of two fists. This lady, notwithstanding, did not believe herself to have any disease, and she seemed surprised at my attaching importance to the state of her bosom.

On dissection, the lardaceous cancer seems less hard, less ligneous, than the ordinary cancer; it may be cut easier, and crimps less under the scalpel; its density is pretty nearly homogeneous, and not concentric,—that is to say, that its consistence does not increase from the circumference towards the centre, as in the ligneous cancer. The periphery of the tumour is lost in the surrounding tissues, but without sending out branches or appreciable laminae. Instead of a bluish or brownish-grey tint, spotted with white, as in ligneous scirrhus, the section of the lardaceous scirrhus is a little marbled, presenting spots of a fawn-coloured brown, yellowish-white, or reddish-white; one might call it a mixture of the encephaloid and scirrhus, still incomplete, associated with indurated and altered elements of the mammary gland. It is difficult and troublesome to squeeze from it, and ordinarily in small quantities, the creamy juice of the cancer. Moreover, I have only met with this kind of cancer on one side in the same woman; whilst the ligneous cancer involves both mammae simultaneously or successively.

Few cancerous tumours progress more rapidly than this, and there are few which seem at first so little to injure the general health. It is with this kind of cancer that I have generally found associated, scirrhus pustules, disseminated under the skin or in the parenchyma, whether of the mamma or of the cellulo-adipose envelope. It is not the less one of the most dreaded varieties of cancerous disease, one of those which shorten woman's life, and which, when removed, re-appear with the most obstinacy.

By what we have said above, it is easy to observe that the scirrhus cancer presents, at the bedside of the patient, a sufficient number of forms so as to admit of being strictly summed up in the following manner :—

Ligneous or hard Cancer—Lardaceous Scirrhus.

In the ligneous scirrhus :

The parenchymatous scirrhus, partial or globular.

The parenchymatous scirrhus, diffused or *en masse*.

The radiating or branched scirrhus.

The plated or cuirass-formed scirrhus.

The pustular or disseminated scirrhus, whether in the skin or in the parenchyma of the gland.

The atrophic scirrhus.

The scirrhus of the lactiferous ducts.

As respects the lardaceous scirrhus, two forms only :

The partial lardaceous scirrhus.

The diffused lardaceous scirrhus or *en masse*.

We must not, it is true, assume the different forms of cancer to be essentially distinct. They have all the same base, the same nature. There is not one which is not as it were confounded with the natural tissues, which does not appear formed as it were by a degeneration or transformation of the primitive anatomical elements rather than by a deposit of foreign matters. Although combined with the normal tissues to such a degree as to render all distinction impossible, scirrhus does not the less display itself in its various shades with characters which are peculiar to it ;—that is to say, under the aspect of tumours or of plates, hard, wrinkled, in relieve (*bosselées*), often adherent to the skin, and which occasionally are the seat of lancinating pains, sometimes acute sometimes slight; tumours which, when they ulcerate, seem to dry, to become hard and still drier; which are not enclosed in any sort of cyst; which are rarified and lost by insensible degrees in the neighbouring tissues, from which it is usually practicable to pre-
out a creamy-looking matter of a cheesy or semi-purulent aspect.

At the commencement as at their termination, the various forms of scirrhus of which I have spoken, are, in fine, so little distinct as to be easily mistaken for each other; it is, then, only at their middle period that they can be really well distinguished; but also at that period they are so well marked that they strike at once the eye of the observer the least attentive, even the mind of those not engaged in the practice of medicine, that is to say, of the non-professional.

ARTICLE II.—THE ENCEPHALOÏD.

THE encephaloïd or fungous cancer of Laënnec, the medullary cancer, which comprises the *spongoïd inflammation* of Burns (1800); the *fungus hæmatodes* of Hey (1803), and of Wardrope (1809); the *pulpy medullary sarcoma* of Abernethy (1804), is another form of tumour often observed in the mammary region; it is there, in fact, that nature has placed its seat of predilection. Speaking absolutely, there are more examples of encephaloïd cancer of the bosom than of any other region or of any other organ, comprising the testes, eye, and tongue, in which this form of cancer is not rare; but in a relative sense it is more frequent in these latter organs than in the bosom. In a total of two hundred and fifty cancers of the bosom of which I have taken note, there were only sixty encephaloïds against one hundred and ninety cases of scirrhus.

The tumours of this nature form two varieties, which the clinical surgeon is obliged to study separately:—one which may be called fungous, the other which is sufficiently firm and as it were lardaceous.

In both cases, the tumour appears first under the form of a small globe or rounded mass, generally placed at a certain depth in the tissue itself of the gland. Although rolling and moveable, it yet does not seem completely independent of the tissues surrounding it. As it grows larger, it spreads on all sides without losing its rounded form; soon it projects externally, raising the skin, which

becomes thinner and is confounded with the tumour, and reddens without at first being inflamed.

The lardaceous encephaloid often presents only an irregular or knotted swelling on the plane of the bosom—a swelling which readily gives the idea of a tumour superadded—of the *head* of a *cauliflower* buried deeply in the principal mass, and long preserving in such a case its primitive density.

By means of the fingers may be detected the existence of a larger base under the external swelling, forming one with the mammary tissue, and whose limits nevertheless seem sufficiently distinct. This deep portion, whose surface is sufficiently uniform, without however being smooth, and whose consistence resembles that of sub-inflammatory swellings, remains generally moveable on the plane of the chest.

For some months it does not project; and up to this period the disease greatly resembles adenoid tumours; nevertheless, from the beginning, as later, the tumour is never absolutely free in the centre of the tissues: by pressure it can be displaced only along with the portion of the mamma including it, and which ends by being confounded with it. Its development, moreover, is sufficiently rapid, and it is rare that at the end of some months it does not give rise to an external prominence.

Far from attracting the skin towards it, and giving to it a dotted, wrinkled, or shrivelled aspect, as in scirrhus, it on the contrary pushes it before it, and thins it, giving to it at the same time more polish and a glistening appearance. The cancerous crimpling (*bosselure*) becomes redder and redder, of a yellowish red, violaceous or deep-coloured, without ever giving an idea of an inflammatory redness. With the consistence of a potato, somewhat less, however, and more elastic, there exist adhesions, such that there is no longer any possible delimitation, even on dissection, between it and the integuments.

Independent of the organs, these tumours present a concrete tissue, solid, like that of a turnip, which cannot be crushed between the fingers, always the more homo

geneous, more foreign in appearance to the normal tissues, as it is examined nearer to its exterior layers. On the deeper side, their section is less *napiform*,* more *lardaceous*. We may there still recognise the primitive tissue of the mammary elements, or a fibro-lardaceous mass, more or less dense, intimately confounded with the natural tissues of the region. This section is generally of a reddish-white or homogeneous grey colour; the brown tint predominates at times, but we meet with neither the spotted grey nor the bluish or semi-diaphanous aspect, nor the creak of pewter so often met with in scirrhus.

The *fungous* and *clustered variety* rounded into balls (*pelotonnée*) of the encephaloïd cancer, commences also often enough by a rounded or globular tumour, situated sometimes profoundly in the mammary tissue, sometimes under the skin, with the appearance of a harmless tumour. As it at first gives rise to no restraint, no pain, patients and physicians have their attention called to it only at an advanced period of the disease. It is the kind of cancer which is developed with most rapidity. I have seen it on several occasions acquire the size of the fist in less than three months; and it is not unusual to see it acquire at length the volume of a child's head, or even that of an adult. The very large malignant tumours of the breast almost always belong to the encephaloïd cancer.

The tumour appears sometimes soft, elastic, supple, from the beginning; next it becomes irregular or knotted as it enlarges; soon it seems to form a series of clusters, of lobules, or of small globules, confounded in one mass, and entangled or haltered in the natural tissues. With a tendency to project externally, rather than bury itself in the interior, it soon involves the skin, which promptly adheres to it, but which neither thins nor discolours so rapidly as in the preceding form.

It seldom happens, however, that, at a period somewhat advanced of the disease, all the irregular knots or swell-

* *Napiforme*, or *napacée*, a term applied in botany to roots which resemble a turnip.—Tr.

ings have the same consistence. I have often seen the same tumour some having the density of lardaceous swellings, others elastic and fungous, and others soft and fluctuating. It is this kind of cancer which may readily induce the surgeon to imagine that there exists a collection of blood, or of serum or pus, and in point of fact there is nothing present but the encephaloïd matter or tissue, properly so called.

On dissection, the fungous encephaloïd appears in the form of clusters, almost always multiple, sometimes numerous, re-united by lardaceous partitions of a bluish tint, sufficiently homogeneous before being sectioned. These knotted swellings (*bosselures*) give the appearance of other cases of the grey matter of the brain, and can easily be broken down with the fingers. Besides the pulpy matter, which may be readily pressed from between the lobes, it contains a fibro-cellular network, mixed with a fine cellular tissue, in general sufficiently rich.

Once softened, the irregular knotty lumps of the tumour are sometimes transformed into a reddish pulp into a kind of *bouillie*. The medullary encephaloïd is besides continuous, like the lardaceous, with the connective tissues of the mammary region and with the integuments, without it being possible distinctly to point out their reciprocal limits, the smallest line of division between them.

Transformations.—Encephaloïd tumours undergoing their development, transformations or changes, the surgeon ought not to be ignorant of.

Cysts.—I have seen the lardaceous encephaloïd give rise to the formation of hematic cysts in many of the women, serous or hydro-hematic cysts in many of the men.

Madame L——, the wife of a physician of Paris, presented one of these cases. The tumour occupied the upper part of the breast, and at first was not larger than an egg, flattened, surmounted by an irregular swelling (*bosselure*) of the size of a nut; by little and little the prominent part of the tumour enlarged to four times its volume, and became soft. I punctured it at the commencement

year 1851, and drew from it about forty grammes* of a serous liquid, slightly tinged red. From that time the solid base of the tumour continued to grow, the serous discharge did not cease, and now (1853) the encephaloïd nature of the disease is no longer doubtful.

Moreover, it is in the cerebriform or fungous cancer that these kinds of cysts are most generally met with. In the lardaceous cancer there is generally only one, occupying almost always the prominent knotty swelling (*bosselure*) of the tumour; whilst in the fungous cancer, the tumour frequently presents several at once, and they are found then as well in the deep masses as under the integuments. We must add, that in fungous cancer, the matter of the cyst, often serous or simply hematic, is sometimes formed of a mixture of medullary matter, blood, serum, &c.

Purulent collections are possible in both forms of encephaloïd cancer; I have, however, observed them more frequently in the lardaceous than in the medullary form: they originate in this,—that one of the irregular swellings (*bosselures*) of the tumour having become the seat of a true inflammation, there is established a collection of pus, as would happen in a natural parenchyma. It seldom happens, however, that in such a case the pus so formed is homogeneous, complete, creamy, well thickened; more generally it is only an ichorous liquid, lactescent, grumous, reddish; its formation is announced by pain, heat, a true inflammatory redness in the portion of the tumour about to become the seat of the abscess.

Ulceration.—When there form neither cysts nor abscess in the encephaloïd cancer, and it is allowed to proceed, it ends by *ulcerating*. From this point the two forms of the disease follow a course generally very different.

In the *lardaceous* cancer, the tumour becomes *hollowed out, excavated*, by the fall or the *putrescence* of some of its irregular swellings (*bosselures*); its tissue softens, seems to become decomposed; the edges of the ulcer pro-

* 1 oz., 2 drachms, 33 grains.

ject, become rounded and irregularly swollen or embossed, themselves red or livid; the adhesions, the confounding of the skin with the fundamental tumour, extend daily towards the circumference; excavations, anfractuositities, form little by little under the reverted edges of the ulcer, from which there escapes daily an abundant and infected ichor.

Fungosities.—In fungous cancer, the work of destruction follows another course: the skin, once ulcerated, speedily permits vegetations, soft, *mushrooms*, *medullary*, red, and bleeding, to spread externally; in proportion as these mushroom-like growths enlarge—and their vegetation is generally very active—they are reversed on the integuments, which they excoriate from without inwards; at the same time other little *tumours in relief* (*bosselures*) enlarge the aperture. As the fungous tissue, now free from all restraint or obstacle, softens as it rarifies, enormous clews, or rounded masses, become detached spontaneously, whether influenced by the slightest traction, or after becoming mortified from a deficiency in the circulation. There may thus be detached considerable masses, mushroom-like pieces, as large as the fist, without preventing the tumour from maintaining in the deepest portion of the mamma a sufficiently large base, always fungous or a little lardaceous.

It is with these vegetations that successive hæmorrhages, often very abundant, occur, to such a degree as to compromise the life of the patients. Similar fungosities may be crushed with the greatest facility, easier, indeed, than cerebral matter itself, by reason that the vascular, fibrillar, or fibro-cellular frame-work or basis of the encephaloïd tissue, thus rarified or thickened, is generally less dense than in the clews of the cerebroïd tissue still retained under the skin.

If the finger be passed into tumours of this kind, it is, moreover, easy to break them down and to empty them, like a cavern filled with pulpy matter. This peculiarity, however, is far from belonging exclusively to fungous cancers of the bosom. I have often remarked it in the

uterus. How often have I found the vagina filled with encephaloid masses as large as the head of the foetus, which I have been able to break down *in situ*, and to extract with the hand, without causing any serious hæmorrhage! How often have I seen the uterine cavity itself largely distended, wholly occupied by such tumours,—tumours so soft that I could, with the fingers or with a scoop, clear out the uterus as if it were a vessel or dish, without giving rise to any notable effusion of blood!

Who has not seen, as I have, the nostrils, the maxillary sinus, the orbit, and sometimes all these cavities together, filled to distension by fungous or medullary masses, easy to break down, to push out by the pharynx or by the nose, without the use of any cutting instrument? Who does not know, that in all these cases the hæmorrhage stops spontaneously, despite so many seeming lacerations?

The encephaloid cancer, when it has reached a certain point, tends naturally to become softened, and even to liquefy in certain cases, whatever M. Lebert* may say to the contrary. Thus it has happened, although rarely, that the whole tumour, escaping by degrees through the ulceration in the integuments, has become, in some measure, *strangled in its root*, after having spread out largely externally, under the form of a vast medullary mushroom, and that gangrene seizing on it, has ended by freeing the patient for a time of its presence.

Ichor.—Another accessory of the cerebriform ulcerated cancer, is the discharge of a matter generally serous, of a sort of flesh-washings or of a reddish ichor, of a nauseous odour, often insupportable, and always readily recognised. This matter, which sometimes escapes in considerable quantity, which gives to the linen imbibing it a yellow reddish tint, escapes unceasingly from the mushroom-like excrescence, from all the ulcerated tumour, to such a degree as to imbibe with it daily thick and large linens,

* *Traité du Cancer*, p. 66, opposed on this point by M. Broca, *Mémoires de l'Académie*, &c., p. 542.

and to such an extent that the dressings and even the neighbouring tissues look as if macerated. A lady whom I saw with M. Cruveilhier, in November, 1850, thus soaked daily (in twenty-four hours) ten or twelve towels! This matter never resembles pus; it is a liquid, a reddish serum, always very fluid, and of a penetrating odour.

After all, and in point of fact, scirrhus may be distinguished from the encephaloid by two observations:—scirrhus tends almost always to draw the skin towards it so soon as it attacks or involves it: the encephaloid, on the other hand, pushes it before it, causing it to become prominent, thinning it, at the same time seeking as it were to perforate and destroy it. In this point of view, at least, it appears to me useful to consider as distinct species of disease, the scirrhus and the encephaloid.

ARTICLE III.—MELANOSIS.

Some modern works* tend to lead to an admission, that melanic cancer is not a peculiar kind of cancer; that tumours thus named are ordinary cancers impregnated with carbon, hæmatin, or pigmentary matter. Based in part, at present, on this point, by M. Lebert,† who admits however the melanosis as an independent form, and especially by M. Broca,‡ this doctrine does not prevent M. Maisonneuve from considering melanosis as a special cancer.

Without denying absolutely, what there may be of reality in the objections of M. Bérard, I cannot, notwithstanding, mistake what there is of the distinct in certain black cancers. It is incontestible, for example, that tumours show themselves under the form of plates, tumours, or tubercles sometimes of a yellowish or reddish black, sometimes of an ebony black, with a consistence soft, lardaceous, or semi-fungous; and that those tumours which remain independent, whose development is gene-

* Bérard, *Dictionnaire de Médecine*, t. vi., p. 297.

† Pages 11, 12.

‡ *Mémoires de l'Académie de Médecine*, t. xvi.

rally rapid, which are often multiple from the beginning, which promptly act on the lymphatic system, which once ulcerated vegetate like mushrooms, which besides progress altogether like encephaloïd cancer, present from the commencement to the end a texture of a brownish-red colour, contain often a *bouillie*, or a black putrelage like blacking, and generally enclose a very frail organic base (*trame*) or fundamental tissue. It is difficult not to see in similar productions, an accident, a change, a phasis of other cancerous tumours. Plates, grumous masses, carbonated lobules, black matter, as it were infiltrated, are undoubtedly met with often enough in the encephaloïd cancer, as well as we often see blood in a state of infiltration or of clot; but these complications of the encephaloïd texture do not resemble, in my opinion, the intimate combination, the real texture of the melanotic tumours, properly so called, of what must, I believe, continue to be called, melanotic cancer.

I have seen, moreover, in the mamma, only two cases of melanic cancer; and also, the two women who were attacked with it had it at the same time in several other regions of the body: in one it was the right bosom which was diseased, and the tumour, as broad as a five-franc piece, occupying almost exclusively the skin, of the thickness of one centimetre* only, was ulcerated at two points, and furnished a sufficiently abundant blackish ichor; in the other, the cancer, of the size of a nut, situated externally to the nipple to the left, was at the same time embossed or irregularly swollen, and still concrete throughout. Both women are dead, without having undergone an operation, with a number of small melanic tumours on the skin, in the ganglions of the neck, in the viscera,—tumours which all presented the same anatomical characters, which had all a homogeneous section, and the black colour or tint of the melanic cancer, the best characterized.

If, as some have asserted, the black tissue of cancer is to be referred to the richness of the vascular tissue of the

* One centimetre = 0.393708 inch.

organs, the tumours which succeed to the primitive tumour, but in different organs, ought to lose this character. Now, it is not so. A melanic cancer of the great toe was followed by a cancer of the same nature on the inner side of the inferior part of the thigh, and the ganglions of the groin became speedily the seat of cancers altogether similar. A melanic tumour of the orbit was followed, after its removal, with a return or relapse in the chest, the belly, and even in the substance of the muscles; all these tumours—and there were many hundreds—were black, completely melanic,—on the surface of the peritoneum, whether intestinal or parietal, as on the bladder, in the thickness of the walls of the abdomen, whether concrete or in the condition of pultaceous matter.

A patient attacked with a melanic plate in the foot, operated on, cured of this plate, had in the corresponding groin a cancer as large as the first. Removed in my presence by M. Follin, the new tumour presented all the characters of melanosis, as we saw them somewhat less than a year before in the little tumour of the heel. Moreover, the melanic cancer contains by the side of a great proportion of cellules, cancerous kernels or nucleoli, blackish granulations, fine and very abundant, as well as other rounded cellules, regular, equally furnished with a kernel, with similar granulations in their interior.

ARTICLE IV.

CHONDROID, COLLOID, FIBRO-PLASTIC CANCER.

(*Myeloid of some English Surgeons.*—TR.)

Micrographers have given the name of *fibro-plastic* to the class of tumours as yet badly defined, and which appear to me to form a portion of the family of cancers, at least in respect of the greater number of them. Thus the *napiform** tumours, the chondroid tumours, the colloïd tumours, the osteophytes, the keloïds, are charged with fibro-plastic elements; and notwithstanding which, diffe-

* *Napiforme*, *napacée*, a botanical term applied to roots resembling a turnip.—TR.

rences exist between these tumours, when we follow them to an end by the bedside of the patients.

§ I.—*Napiform Tumours, or Fibro-plastic Tumours, properly so called.*

There exists a variety of tumours I have several times met with in the mamma, but much oftener elsewhere, and which constitute still a real form of cancer. Hard, as it were fibrous, more compact however than fibrous tumours, than adenoid tumours, these kinds of tumours are more fibrillar, although quite as firm and quite as solid as the tissue of a potato. Commencing sometimes with the profound layers of the region, they may remain independent of the skin for a long time. Whether they involve this membrane, which often happens, or that they originally become developed in it, they colour it only moderately; at first indolent, they readily remain in a scirrhus state, even to an advanced period of their development; they do not soften nor become fungous, but exceptionally, as they get older: the ulceration which at length seizes, destroys them, hollows them out, rather after the manner of a scirrhus than in that of an encephaloid. If their embossments (*bosselures*) be distinctly marked externally, they do not the less form in their *ensemble* a homogeneous mass, generally without septa or partitions, the section of which presents no exudation, no appearance of cancerous juice.

Those which soften may appear spongy to the hand exploring them, so as to give the idea of a sort of fluctuation, and to render sufficiently difficult their diagnosis from encephaloid, although, however, they alter or colour the skin: in the dead body we find them composed of colloid clews, bridles, partitions, detritus of the natural tissues, putrilaginous matters, some masses still sufficiently firm at certain points, softened, semi-liquefied at others.

It has happened to me, moreover, in following the evolution of these tumours, to ascertain in a decided manner their gradual change from the fibrous or hard

form, to the colloïd or fungous, the most distinct. Thus I have been tempted to admit, that they form with colloïd tumours but two diverse phases of the same sort of cancer. I have chiefly observed them in the thigh and shoulder. I have met with them also in the mamma, or so generalized that the entire economy seemed inundated with them.

What induces me, however, to describe them apart, is, that in generalizing (becoming constitutional), they preserve occasionally their primitive physical characters, even to the end, whatever be the organ or the tissue which they involve.

Here are observations which explain the progress of such cancers in the parenchymas, in the serous cavities, and especially in the pleuræ.

OBSERVATION I. — *Fibro-plastic Tumour of the Bosom.*
Extirpation; relapse. Multiple tumours of the same nature in the splanchnic cavities.

The woman Poiree, aged fifty-one, of a strong constitution, had in the left bosom, at the age of thirty-four, a small tumour, unequal and hard. This tumour, which became rapidly developed, became soon the seat of some shooting pains, and was removed some time afterwards by A. Dubois. Eight years afterwards, the right bosom became in its turn the seat of a similar tumour. In October, 1823, when the patient was admitted into the clinical hospital, the tumour, about the size of the fist, hard and painful, adhered by the summits of some of its embossed swellings (*bosselures*) to the integuments, which were as if confounded with them. The extirpation was performed on the 12th October by Bougon, who removed at the same time almost all the tissues of the mammary region: the pathological specimen in consequence weighed more than two pounds.

The tumour, of a bluish-white colour, very hard, homogeneous, crisping under the scalpel, lobulated, was not softened at any part, and was found to be enveloped in sound tissues.

Everything went on well at first, and the wound was reduced by three-fourths, when lancinating pains came on, and the open surface assumed a violaceous or livid aspect. Small tumours appeared speedily in the neighbourhood: of these, some were extirpated, others were destroyed with the arsenical paste, but new ones appeared towards the axilla. The general state of the body altered rapidly; diarrhœa soon came on; cough was superadded to these; next aphonia, then insensibility of the right arm; the respiration became more and more rapid, and the poor patient died three months after the operation.

At the opening of the body, the external tumours, well isolated throughout, surrounded with healthy tissue, whose layers they had separated without altering the texture, were there like so many foreign bodies.

Their substance is hard, lardaceous, homogeneous. Several of them adhere to the ribs, against which we may perceive a shoot penetrating into the thorax. The right pleura contains an infinite number of similar tumours to those externally. Pediculated, they are suspended to the inner surface of the pleura by so many roots or threads: the serous surface seems in other respects altogether sound in the interval, and its cavity contains besides a matter full of filanders, a kind of reddish felt, into which several of the above-mentioned tumours seem plunged. The left side of the chest presents the same disorders, and contains similar tumours to those of the right pleura; the same is the case with the separation of the mediastinum, and with the pulmonary parenchyma. None of these tumours were softened, either in the centre or periphery. They all had the aspect of the tissue called napiform or of chondroid tumours in a crude state

Does not this observation, which I published in 1825,* refer to what modern micrographers describe under the title of fibro-plastic tumour? and does it not prove, without a question, that the fibro-plastic tissue belongs

* *Revue Médicale*, t. ii. p. 177.

less solid; elsewhere, their tissue was of a yellowish white, gluey to the touch, or as if caseous. In the midst of all this, a larger or smaller number of knotty swellings (*bosselures*) gives the idea of the medullary or encephaloid tissue; a fibro-cellular base, easily distinguished; the whole re-unites by means of various partitions, is sufficiently vascular in certain points, lardaceous, cartilaginous, fibrous at others. Here is a very old example of the disease, since I published it in 1826.

OBSERVATION III.—*Colloïd Tumour described by (Arch. Gén. de Médecine, t. xii. p. 512) in 1826, under the title of "Colloïd or Hydatiform Scirrhus."*

A countrywoman, aged thirty-six, entered the Hospital of the Faculty on the 10th May, 1826, having had for two years in the left breast a tumour as large as a fist, hard, slightly embossed, and very exactly circumscribed; this tumour, subjected to every kind of curative medication, fluctuated in no part, but continued to increase day by day. There were no enlarged glands in the axilla, and the patient in other respects was in excellent health. The extirpation of the tumour was performed four days afterwards by M. Roux, who united the wound by the first intention, so that this woman was cured by the 10th of June. I had occasion to see her on the 10th of November, at which time she continued to enjoy excellent health.

The pathological specimen represents a semi-globular mass, which contains a portion of the mammary gland, unaltered in its position. The interior or convex surface may be readily isolated from the skin; its other surface is plain, and lined with a thin layer of lamellated cellular tissue and of fat. No

and not softened in some points; in the condition of *bouillie*, and decomposed in others.

At this moment I remain persuaded, as then, that this tumour belonged to the category of colloïd tumours, and that the gelatinous form of some of its *bosselures*, was an indication of a very advanced period of the disease, of a tumour originally adenoïd. I had moreover recognised its harmless character; since I added as a concluding remark:—

“This form of the disease appears to us susceptible of being distinguished from every other during life, and it has not been proved that it returns when completely removed.”

Matter purely colloïd exists, however, also as a primitive matter, in some tumours far removed in other respects by their other characters from the physiognomy of cancers; if not in the mamma, at least in other regions.

One of the most conclusive cases in favour of this opinion presented itself at la Charité, in 1851. The tumour, which occupied the ham and the inner half of the thigh, was as large as the head of an adult, formed of an infinity of masses, separated by very thick, complete partitions; the matter which constituted this tumour was throughout only a true jelly, which it was possible to enucleate with the fingers, and whose consistence and other physical attributes offered the strongest analogy with the colourless or yellowish fibrinous clots filling the heart and large vessels of many subjects immediately after death. There existed nowhere any matter different from that I have just pointed out. The microscope, which found therein no cancerous cells, showed the presence of the fibro-plastic element, the fusiform cellule in abundance. The substance was throughout, in the centre as well as in the exterior layers, homogeneous, soft, without texture, gelatiniform, absolutely like the polypiform concretions of the heart.

Similar tumours ought to be possible in the mamma as well as in the thigh and elsewhere; at all events,

they must be admitted to be of a special nature. They merit in every way the title of *colloïdes*, but evidently they have nothing of the nature of cancer; their physiognomy altogether is so remote from that of the tumours described above, that it would be strange not to separate them, in spite of the evidence of the microscope.

This gelatiniform matter has something odd in its evolution or in its distribution. Thus, in the patient of whom I have just spoken, it existed alone, without any admixture with any other matter whatever, re-united into vast clews (*pelotons*) between the meshes or layers of the normal tissues, as in so many cysts, separated by septa of variable thickness, and under the form of a true dépôt. Well cured by the operation, this man had no relapse, and the detailed case will be published in another work.

Further, I have never met with purely colloïd matter alone in the testicle or in the bosom: I have always seen it associated with lobules, clews, and masses of an entirely different aspect. In the same tumour it is found disseminated in lumps or knots, and in variable proportions; in the midst of encephaloïd clews the best developed, or of phymatoïd foci intermingled with partitions or *débris* of the primitive tissues; it is the same with certain adenoïd tumours, in which I have often found, at an advanced period of their development, the most distinct colloïd clews: in the tumours I have observed at the root or in the body of the limbs, in the neighbourhood of the bones, and in which we sometimes meet with enormous quantities, this matter is almost always united to clews, to lobules of a cartilaginous or even osseous density.

Moreover, it is sufficiently strange, that in the middle of these kinds of tumours the bone is often destroyed, as if dissociated, broken up into fragments, scattered here and there in the morbid production to such an extent as to be scarcely recognisable. The osteiform fragments which the scalpel finally detects in the mass are only there in the form of integrant parcels of the chondroïd or fibroïd clews of the tumour; and the agglomerations of colloïd matter, seem themselves but

the ancient knotty tumours (*bosselures*), softened or semi-liquefied, of the chondroid substance, properly so called.

Thus there exists—1st. Primitive *colloid* tumours, which the presence of cellules or fibro-plastic kernels does not prevent, being of a nature clearly harmless; 2nd. Secondary *colloid* tumours, having for their base or point of departure either an adenoïd tumour or more commonly the fibro-plastic cancer, the napiform or chondroid tissue of certain authors.

The colloid matter, then, in itself, does not indicate the absolutely malignant or the harmless character of the tumours composed of it. The *colloid state* of cancerous tumours is generally but an accident, the result of an advanced phase of the disease; but there are tumours, formed from the commencement of colloid matter, which are not cancerous, as may be seen in the preceding observations.

In other terms, we must distinguish in these tumours those which are composed wholly of colloid matter alone, from those comprising at the same time different matters. Everything indicates, in fact, that the first are not of a malignant nature; that they have no tendency to re-appear when they have been completely removed; that they ought to be separated from the class cancers. In the second there will be a sub-division to establish; in the centre of tumours, adenoïd or purely fibroid, the association or the adjunction of gelatiniform clews does not destroy their harmless character, and permits us to leave them also out of the list of cancerous tumours; re-united, whether to the encephaloïd substance or to the scirrhus tissue, which, moreover, is very rarely impregnated with it, or to the chondroid tissue, or fibro-plastic, properly so called, the colloid masses indicate or characterize a kind of tumour of a very bad kind, a category of cancers extremely to be dreaded, although we find no appearance of the cancerous cellule, nor of anything resembling it.

To believe, with M. Lebert, that fibro-plastic cancers never generalize, never re-appear, but on the spot—are always a disease purely local, it is necessary that M.

Maisonneuve* had promptly lost sight of his patients; for we have seen above, this kind of cancer re-appear, on the contrary, with extreme obstinacy in the spot itself, in the neighbourhood and everywhere. The author of this proposition admits elsewhere,† at present, that six examples of generalized fibro-plastic cancer have come to his knowledge. To characterize such a disease, of a nature also manifestly malignant, by a cellule, by a homœomorphic element, the same as that of the natural fibrous tissue of the skin, of the indurated chancre, of the tissues exhausted by inflammation, of the hypertrophied lymphatic ganglions degenerated, appears to me but little reasonable. There are, it is true, fusiform cellules in these tumours, but the speciality of the disease depends on something else unknown, which it is important still to inquire into. The cancer, the colloid matter being but a transitory form of the disease, cannot, in my opinion, be considered usefully as a distinct species, and it is under the title of a harmless tumour that it must be admitted, when it shows itself from the beginning nearly alone in the pathological product; removed in this way from the group of malignant diseases, this would be a new conquest of diagnostic to the profit of benign tumours, and to the detriment of cancer, that implacable enemy of life.

Never having met with pure chondroid nor osteophyte which could give an idea of cancer in the breast, I think it superfluous to occupy myself with this kind of disease. It is not altogether the same with keloids, of which I shall say a word, after having indicated the epithelial cancer.

ARTICLE V.—EPITHELIAL CANCER, OR EPITHELIOME.

The cancroïd or epithelial cancer of the breast must be rare, for I am not certain of having met with it there; and M. Hannover,‡ who studies the *epitheliome* in all the

* *Leçons Cliniques*, &c., p. 28.

† *Gazette des Hôpitaux*, 1852, p. 596.

‡ *Das Epitheliome*, &c. Leipzig. 1852.

organs, does not speak of that of the mamma. The meliceric tumour, of which I have related an instance (page 314*), permits me, nevertheless, to believe in the possibility of such a cancer of the breast, although the mouth, the face, the neck of the uterus, and the integuments be evidently its seat of choice; I shall only in this way have to occupy myself with it when treating of relapses, and of the nature of cancer in general.

ARTICLE VI.—KELOÏDS.

The tissue which forms the tumours indicated by Alibert under the name of keloïds, has something in it singular; holding, as it were, the middle place between the scirrhus and the fibrous tissue, it neither includes the cancerous juice nor any other. The section of it is dry, somewhat glistening, of a reddish-yellow, and perfectly homogeneous. Tumours of this kind are scarcely found anywhere but in the skin. They project externally, and not towards the subjacent tissues. Sometimes in the form of plates, of various figures, oblong, lozenge-shaped, like a disc, or with an angular circumference; they have often also the aspect of a seam, of a crest or pad, hard, reddish, or of a yellow colour, somewhat rosy or flat. I have met with it on the shoulder, the back, the side of the neck, the forehead, the lips, the wrist, the thigh, limbs, arms, but principally on the fore part of the breast.

They everywhere show the same characters, that is to say, the aspect of a cicatricial plate, reddish, smooth, of the density of fibro-cartilage, and indolent, forming an elevation on the surface of the integuments, the thickness of which they do not seem to exceed.

The keloïds have in general as a base, old degenerated cicatrices; and the cicatrices of burns take on more readily than others, this kind of transformation. It seems as if it were simply the cicatricial tissue indurated more and

* In Volume II.—TRANSLATOR.

more, simultaneously with a notable hypertrophic movement under the influence of a special pathological action.

It must not, however, be believed, that the keloïd never shows itself anywhere but in cicatrices. I have met with it both on the chest and in other regions, which had not been previously injured, nor suffered any solution of continuity. Having once attained a certain degree of development, they in general cease to grow, so as to remain indefinitely, simply as a deformity; causing no pain, they continue merely as a kind of *relievo* or embossment of the skin, swollen, or projecting.

The keloïds are so distinctly circumscribed,—the skin, as well as the other tissues surrounding them, preserves the characters of healthy tissue, that at the first view one feels disposed to believe that to obtain a radical cure it is sufficient merely to extirpate them; whilst, in fact, after their removal, we find almost always the new cicatrix assume quickly the characters of the ancient keloïd: there forms, after some months, a tumour larger or thicker than the first.

What characterizes especially this kind of tumour, which separates it from true cancers, is, that it never re-appears beyond the cicatrix itself; that is to say, it gives rise to no similar tumours in the neighbourhood; it excites no disease in the ganglions, the lymphatic system; it has no tendency to ulcerate or to enlarge indefinitely; in a word, it seems to concentrate all its morbid energies on the focus of its origin.

If the micrographers had applied to the keloïd alone what they say of fibro-plastic tumours in general, namely, that it is a disease which re-appears only on the spot of its origin, which never becomes generalized, they would have confined themselves to the truth; but the most simple reflection, the slightest clinical examination, will always suffice to prevent the arrangement of keloïd, the true type of the fibro-plastic tissue,* in the same category with chondroïd cancers.

* Lebert, *Gazette des Hôpitaux*, 1852, pp. 583—596.

Nevertheless, it is a species the harmlessness of which may be called in doubt: it may be extirpated, removed, even with a large extent of the sound tissues; this will not prevent its re-appearing almost indefinitely. Without speaking of relapses of this kind, which I have observed in the hips, wrist, neck, &c., I shall mention the case of a young lady who consulted me for a keloïd of the bosom. Of remarkable beauty, which long made her the great attraction of certain *salons* of Paris, this lady had on the inner side of the right bosom a small tumour, of the form of a large wart, which caused no suffering, but whose presence in such a situation vexed her greatly. She had it removed by an expert surgeon; the operation was neither long nor difficult; the edges of the wound were re-united by means of two points of the twisted suture. A month after the cure, the cicatrix, far from becoming paler more and more, appeared on the contrary to become redder, harder, more prominent; in brief, at the end of six months, the new tumour had acquired the size and the thickness of the finger; whence a deformity greater than the one which had given rise to the operation.

More annoyed than ever, the patient caused the tumour to be removed by another surgeon. Fearing that the cicatrix had assisted in the production of the troublesome results of the first operation, the wound was allowed this time to cicatrize by the second intention. All went well at first; a regular and flat cicatrix established itself in the space of a month. The lady and surgeon were delighted with the result. Six weeks later the cicatrix began to thicken, to become red, to assume the density of cartilage, and it soon equalled the dimensions and thickness of the thumb. Travelling in Germany, in Italy, where she consulted the most distinguished practitioners, the patient made trial of a variety of treatment, and returned to Paris very disconsolate. At this time the tumour had increased about a third or a half after each operation. It was then I saw her.

The keloïd occupied the internal and upper part of the

right breast, so as to extend as far as the median line. Slightly ovoid, a little larger below than above, three centimetres in length (1.18424 inch), and two and a-half centimetres (0.7874 inch) in breadth, it was elevated above the surface of the region by about one centimetre (0.3987 inch). It was of a pale rose colour, and analogous in consistence to the fibrous tissue, or to the most solid lardaceous. It was not irregularly swollen. The exterior was smooth and shining. It had ceased growing for some months, but the patient, not being able to remain contented with her condition, resolved at all hazards to have the deformity removed for the third time. I performed the extirpation with the concurrence of Dr. Piron, her ordinary attending physician.

As this lady had a certain *embonpoint*, it was possible, despite the extent of the loss of substance, to reunite and maintain in contact the lips of the wound by means of three needles and the twisted suture. The mammae were supported and pushed inwards by means of a bandage, so as to prevent all traction of the suture. The re-union took place regularly, and we had for some weeks a regular cicatrix, in appearance very supple.

Delighted with her cure, which she believed at last to be final, and which seemed so to myself, Madame L— left France to pass the winter in Italy. I have not seen her since, but I know that the keloïd returned, and that the poor lady had resolved to have nothing more done to it; to clothe herself in such a way that the dress should no longer permit indiscreet eyes to perceive the deformity.

It appears, however, from what M. Bretonneau has told me lately (September, 1853), that by the influence of time or by the action of a compressive plaister, the *calotte*, he keloïd, has somewhat diminished within a year or two.

I have moreover extirpated from the neck of a young man, attended by M. Legroux, a keloïd which was at its third relapse, and I could readily quote many similar examples.

ARTICLE VII.—ANOMALOUS CANCER.

An affection of the breast, of a harmless appearance at first, but truly cancerous afterwards, and which I have only met with once, presented itself in 1852 at the Hospital of la Charité. I give a drawing (Plate II.) of it; the details of the case, drawn up by one of my students, M. Labbé, completed by another *interne* (dresser) of the hospitals, M. Dunénil, at the Hôpital Saint Louis, where the patient went to die some months afterwards, will here suffice for the description of the case, and will show all which the fact has in it of the singular, even of the strange.

*Vascular affection occupying all the left mammary region,
with hypertrophy of the skin and subjacent tissues.
Difficulty of the diagnostic; subsequent cancer.*

Fremy, fifty-eight years, entered la Charité on the 7th July, 1852, left the 30th September; entered the Hôpital St. Louis the 20th April, died of pleurisy in May, 1853.

The disease is of about a year's standing. It commenced by isolated patches, livid, which become by degrees prominent to the touch, and next form small hard tumours, indolent, rounded, of the size of a grain of hempseed, reddish; these tumours increase, sometimes one by one, sometimes by uniting to new spots, so as to form plates with an unequal surface, reddish, mammelonated, with irregular edges. Of a transparent aspect, vesicular, these plates have in reality a solid consistence, and when pierced with a needle give issue to no liquid. On a level with them, the epidermis, much thinned, exfoliates with the slightest friction; a slight serous exudation, which is the consequence, concretes, and gives rise to yellowish crusts; elsewhere there is only a simple desquamation; still, in other places the epidermis is sound, and through it may be seen the varicose capillaries of the dermis, giving to the skin a bluish shade, unequal throughout a variable extent.

These varicose spots, which do not project above the

level of the skin, have a darker tint than the tubercles, and seem to be the point whence proceed the tumours, *isolated* or in *mass*; they are developed always in the course of varicose vessels, after which the bluish tint disappears, to make place for them, if the patient may be believed, and which indeed it has been possible to observe for two months and a-half, during which time she has been in the hospital.

The disease appeared at first on the inner side, next in the upper part of the mamma; there the plates are thickest: they are more disseminated inferiorly and externally; finally, the nipple and the areola, which have long continued sound, have for some days commenced being covered in their turn with tubercles altogether similar to the first. This kind of erectile development involves thus, step by step, about two-thirds of the region; here, by isolated points, there, under the form of plates more or less extended.

The skin itself is hypertrophied slowly, and no doubt with it the subcutaneous cellular and adipose tissues, so as at present to quadruplicate the size of the mamma.

This affection develops slowly, without fits, almost without the consciousness of the patient, whose health in other respects is excellent, and who feels no other inconvenience from the disease than what results from the size and weight of the breast. At the commencement the patient experienced sensations of heat, so strong as to require the application of ice.

Hitherto the disease has been local; but about a month ago œdema came on in the lower extremities, especially the left; the appearance of this œdema coincides precisely with the development of small tumours, similar to those of the breast, above the inner malleolus of the left foot. These small tumours disappear without their appearing in other regions. The patient has nourished three children; she has never had inflammation of the bosom.

April 20, 1853.—At the Hôpital St. Louis: both bosoms are affected.

The state of the left breast, which was attacked first, is as follows:—The whole surface of the mamma represents a large plate, of a violet-red colour, fifteen centimetres (5·4055 inches) in diameter, formed of unequal vegetations pressed one against the other uninterruptedly, and without leaving between them any portion recalling the normal aspect of the skin. These vegetations, of which the largest are about the size of a pea, bleed easily when irritated by the slightest friction. Blood escapes even spontaneously, and there exudes continually a considerable quantity of a yellowish thin liquor, of a sickening odour.

In the centre of the diseased part is the nipple, retracted, with its areola of a deep red, hard, and adhering to the subjacent tissues. The vegetations also exist, but smaller, less prominent, less numerous, than at other points. The circumference of the plate, distinctly limited, is marked by an evident prominence of the diseased parts above the neighbouring skin. It rests on hard tissues, completely adherent, and forms one with them. The mamma is but little prominent, without *bosselures*, or knotty swellings, or inequalities, other than the projection of the vegetations with which it is covered. The alteration of the subcutaneous tissues does not seem to extend beyond the external vegetations, for the skin preserves there its suppleness, its mobility; no induration is perceptible to the touch, no irregularity; pressure causes no anormal sensibility.

But if the deep tissues seem respected external to the principal seat of the disease, it is not so with the integuments. Here and there, in fact, around the parts where the degeneration is complete, are found groups of vegetations similar to those of which we have already spoken. The skin separating them is perfectly sound at some points, but elsewhere it is traversed by small varicose vessels. We even meet with some slate-coloured spots, of about one centimetre (0·3987 inch) in size, where the blood appears effused into the skin. These groups of vegetations are five or six in number in the upper part of

the mamma; there are two in the axilla. Two of these vegetations, isolated, are to be seen on the outer side of the bosom, in the middle of a small slate-coloured spot.

Several slight attacks of erysipelas have appeared in the neighbourhood. No enlarged glands are to be found in the axilla.

Three months ago the other breast became diseased, but in quite another way. The left bosom had acquired rapidly, at the commencement of the disease, a considerable volume; the right breast, on the contrary, contracted at first towards the centre. The nipple and its areola began to be depressed, becoming at the same time harder. By little and little the induration and the retraction extend from the centre to the circumference; at present the disease has involved not only the whole of the mamma, but also the surrounding tissues, throughout a zone of several centimetres (1 centim. 0·393 inch), following, however, a very irregular line. The integuments, the subcutaneous cellular tissue, the gland, the deep cellular tissue, form a single mass, completely immovable, intimately united to the thoracic wall. The skin is tarnished, dry, and as if withered, folded on itself, of the hardness almost of wood. The nipple is, as it were, lost in the centre of the tumour. No pain is caused by pressure, nor are there any spontaneous pains nor swollen axillary glands.

The general condition is very good. Though somewhat pale, the patient preserves a considerable *embonpoint*. All the functions are well performed. She feels only from time to time painful points in the left side of the chest. Three weeks after her entrance into the Hospital of St. Louis she died of a pleurisy.

Autopsy—considerable effusion in the right pleura; left pleura completely effaced by adhesions.

In the liver there are about ten cancerous kernels, the largest of which, visible on the upper surface of the organ, have the size of a chesnut. All the other viscera are in a normal state. The left mammary gland has been transformed into a yellowish lardaceous tissue,

with some white shoots. The great pectoral muscle has undergone the same degeneration in its inner part. The tumour of the right side is equally formed of a very hard tissue, creaking under the scalpel.

A section taken from off the surface of the left mamma, and comprising the nipple, another morsel taken from the middle of the tumour of the right side, and one of the morbid masses of the liver, have been placed in the hands of M. Robin, who, having examined them microscopically, has communicated the following details:—

1. *Left Side.*—The section of the tissues shows a grey aspect, semi-transparent, having fibrous fasciculi only in the part where it joins insensibly the cellular tissue. From it may be squeezed out a greyish juice of a creamy consistence; in a word, the cancerous liquid. This liquid, as well as the fragments of the tissues whence it comes, and as well as the fragments of the tissues sprouting or granulating on the surface of the skin, presents the cancerous elements the most characteristic. 1. Free nuclei, ovoid, having generally from $0^{\text{mm}},012$ to $0^{\text{mm}},015$, with one, and sometimes two, nucleoli, yellow, brilliant, and tolerably large. 2. Cancerous cellules of very variable form, having a diameter of $0^{\text{mm}},020$ to $0^{\text{mm}},080$.* Including all, one, two, often three, and sometimes even six, nuclei, similar to the free nuclei; the cellules are proportionably more abundant than the free nuclei; the largest, and those with multiple nuclei, are met with especially in the granulations (*bourgeons*) on the surface of the skin. The free nuclei and the cellules swim in a liquid containing molecular granulations and fatty granulations (granules?) sufficiently abundant.

A section on a level with the nipple shows a line of demarcation, sufficiently distinct, between the cancerous tissue involving the skin and the tissue formed by the galactophorous canals re-united by cellular tissue. The cancerous tissue is of a rosy-grey colour; the tissue of the

* The cancerous cellule varies from $\frac{1}{1200}$ to $\frac{1}{2500}$ of an inch.—Tr.

galactophorous tubes is whitish-grey, and fibrous. By compressing it, there is forced out towards the deepest part of the section (in the portion where the galactophorous canals are continuous with the mammary tissue which had been separated from the diseased skin), filaments of a matter which has a white appearance, yellowish, and of the consistence of the matter of the sebaceous glands comprised in the epidermic tissues of the face, &c. This matter comes evidently from the galactophorous ducts.

The matter we now consider is composed—1, of the cellules of the pavement epithelium, more irregular and more granular than in the normal state. Some free nuclei are also observed, somewhat more granular than in the normal condition. We meet with, also—2, a very large proportion of molecular granulations (granules?), forming proportionally a mass more considerable than the sebaceous matter, than the epithelial cellules themselves. The one and the others are often enough re-united into little groups, the largest of which have the dimensions of corpuscles of pus, but are readily distinguished by the irregularity of their form.

Such is the composition of the morbid contents of the galactophorous ducts, which, as we have seen, has nothing of the heteromorphous.

II. *Right side.*—The mammary tissue presents a great consistence: it is hard, cannot be torn, and gives out no trace of liquid. At the most, here and there small orifices may be seen, by which escapes a matter entirely resembling cream. Examined microscopically, it presents its entire composition, that is to say, it contains: 1, milk globules in abundance: 2, corpuscles of colostrum altogether resembling those we find in milk immediately after delivery. No elements of cancer are to be found there. The mammary tissue shows only the fibrous tissue, and here and there mammary *culs-de-sac* with their epithelium, but rendered visible only by the action of acetic acid on the cellular tissue.

III. *Liver.*—The tubercles of the liver give out very little liquid, but their tissue presents a very great number

of cancerous cellules with ovoïd nuclei, having all one or two brilliant yellow nucleoli. There are also free nucleoli similar to those contained in the cellules. It is not rare to find cellules containing two and even three nuclei. These ovoïd nuclei, their yellow brilliant nucleoli, enable us readily to distinguish the cancerous cellules from the cellules of the hepatic epithelium which are mingled with them, and which have sometimes the same dimensions, but which have all a spherical nucleus, and are much more finely granulated.

As I now speak of a fact of which I know no other example, I have thought it right to give it with all the details, and to shorten nothing, especially of its pathological anatomy, of its microscopic history, which has been given with so much care by M. Robin.

Its scientific value appears to me of still greater importance than its clinical. In fact, the liquid and the cellule of cancer were found only in the left breast, which, notwithstanding, scarcely presented the physiognomy of cancer; the right breast, which was on the contrary cancerous in the highest degree, contained neither the specific liquid nor the cellule. The materials of the milk which M. Robin found in the middle of the scirrhus mass of the right mamma, reveal, on the other hand, a part of the analogies which exist between the butyraceous tumours, of which I have spoken elsewhere (page 300, vol. II.), and cancer. I shall necessarily therefore have to return to this fact when studying the diagnostic or prognostic of malignant tumours.

CHAPTER II.

DIFFERENTIAL DIAGNOSTIC.

THE differential diagnostic of cancers is demanded in several ways in practice. First, it is employed in order to avoid confounding the various aspects or varieties of malignant tumours with each other; afterwards it is had recourse to with the view of distinguishing cancer from harmless tumours, after having inquired into their pathological anatomy.

ARTICLE I.—DIAGNOSTIC OF CANCERS FROM EACH OTHER.

We cannot readily distinguish the different forms of cancer at the bedside of the patient before their last period; for until that arrives, it must be allowed that most of them end by resembling each other, or by being confounded.

The surgeon, it is true, has no great cause for regret, seeing that the final diagnostic is then but too easy, and that there is no longer any occasion to know precisely to which species of cancer the case is to be referred. At the beginning, the progress of cancer differs, on the contrary, according to the species concerned, so that it is clearly useful to decide at first on the variety of the tumour before you.

In general it is easy to distinguish the scirrhus from the encephaloid. A mamma seized in a mass with a ligneous or lardaceous hardness, cannot be confounded with a globular tumour, moveable, elastic, or fungous, whatever be the period of their development.

The scirrhus has in it always a something hard, the

encephaloïd a something soft; the encephaloïd gives the idea of embossments (*bosselures*), tending to swell irregularly, to become prominent externally; in the scirrhus, on the contrary, the tumour and the integuments have a shrivelled indurated look: the encephaloïd distends, thins, reddens, and ulcerates the skin from within outwards; the scirrhus seizes on the integuments by dragging them towards it, thickening them at first, corrugating or folding them, and seems to give rise to ulceration from without inwards.

The encephaloïd, which ulcerates, is speedily complicated with vegetations, fungi, soft mushroom-like productions, easy to break down: the scirrhus digs, hollows out, does not vegetate on its disorganized surface, and remains hard at every point. At the commencement, the scirrhus cannot be distinguished from certain indurations, from certain hypertrophic basements or doughy swellings (*empâtements**) of the normal tissues; but the encephaloïd, always presenting itself under the form of masses more or less exactly rounded, cannot be confounded, even with scirrhus, at any epoch: from these dissimilitudes in their principal physical characters, it results besides, that one of these two tumours seldom exceeds a certain volume before ulcerating, to endeavour in some measure to destroy itself; whilst the other may acquire enormous dimensions.

The distinction between the encephaloïd and certain chondroïds or colloïds, is in reality much more difficult; nevertheless, if it be kept in view that chondroïd tumours are hard and profound up to a very advanced period of their development; that they adhere almost uniformly to some point of the skeleton; that their hardness is generally analogous to that of the cartilages, and gives even at times the idea of exostoses a little softened; that it is late before they involve and alter the integuments; that if, in the colloïd state they ulcerate at length, there

* *Empâtement*, a term used by French surgeons to express a non-inflammatory swelling (engorgement) preserving more or less the impression of the finger, and is consequently related to œdema.

result no funguses, mushroom-like growths, medullary vegetations, hæmorrhagic craters; that, on the contrary, they become hollow of their own accord, so as to give rise at times to vast caverns,—they can only be confounded with encephaloïd cancer by inadvertence. This is effectively represented from the beginning by a tumour more or less lardaceous, always elastic, frequently of a fungous consistence, remaining most generally moveable amongst the tissues, which tends in preference towards the skin, and which ulcerates only, as it were, to vegetate more freely and more largely externally. Thus, even at their extreme period of evolution, it is still possible to distinguish these two forms of cancer.

Supposing the lobules of the chondroïd tumour to soften or liquefy, that cysts filled with fatty, phymatoïd, hematic, or even purulent matter, be found intermingled, the disease does not the less maintain its earliest aspect; that is to say, the chondroïd hardness and the absence of any fibrous or fibro-vascular framework or basis. In the encephaloïd, on the other hand, the most advanced, the presence of chondroïd or phymatoïd clews or balls, of hematic or serous cysts, do not prevent the medullary or fungous tissue from being completely recognisable by its fundamental tissue, by its, so to say, long-haired vascularity, and by the aspect, purely lardaceous, of the portions of the tumour not yet softened.

It must, however, be confessed that certain tumours clearly chondroïd or colloïd, may greatly embarrass the practitioner. I shall return to this when treating of the differential diagnostic of cancer and of harmless tumours.

The distinction between the encephaloïd and the melanose appears at first easy; the black colour of the latter puts one immediately on their guard against all error; nevertheless, as the fungus hæmatodes,—that is to say, the medullary cancer in which sanguineous infiltration and the vascular tissue resembling long hair is often black coloured, although of an encephaloïd nature—it is possible to take for melanosis a tumour perfectly

similar in other respects to the cerebriform cancer, properly so called. On the other hand, harmless tumours being at times infiltrated with pigmentary or carbonaceous matter, it is possible to view as melanic cancers, tumours of a nature much less formidable.

The melanic tumour having its seat either in the thickness of the skin or in the subcutaneous layer, exhibiting itself in general under the form of spots or of pustules, having but little tendency to ulcerate, to form fungous masses, one may, notwithstanding, distinguish it from the encephaloid cancer, at whatever period of its development it be observed; the encephaloid cancer being almost constantly situated at a certain depth, under the form of a globe or rounded tumour, vegetating rapidly, reddening the skin before ulcerating it, and which usually swells with great rapidity.

The keloids differ by too many characters from the encephaloid cancer to make it useful to consider the matter as regards a differential diagnostic. It is with the scirrhus rather, that they have a certain analogy. They differ, notwithstanding, by shades perfectly distinct. Besides that it occupies only the skin, that it is for the most part but a sort of transformed cicatrix, that it forms always a circumscribed relief on the surface of the integuments,—this tumour is of a consistence less dry than that of scirrhus, of a reddish shining tint, of a regular smooth aspect, and its section absolutely homogeneous, without any pathological fluid, of lactescent or cancerous juice.

The scirrhus, even when it involves the skin, tends to depress this membrane, or to ulcerate it. It presents a more unequal firmness, and furnishes besides a cancerous juice under all its forms. The keloïds, having no tendency to ulcerate, to produce others in the neighbourhood, to affect the lymphatic glands, or to infect the economy, may always be readily distinguished from the cancerous scirrhus.

There remains the category of fibro-plastic tumours. Analogous to scirrhus by their consistence, they rather

resemble the encephaloïd by their globular form, by their seeming isolation in the midst of tissues which become their seat. They differ from the first, notwithstanding, in this,—that, enlarging indefinitely, they raise the skin, and become embossed, without losing anything of their consistence, in place of wrinkling, of withering up, of forming the skin into folds, of drawing it inwards, as happens in scirrhus. Contrary, in fact, to scirrhus, the fibro-plastic productions are generally very limited, without radii or shoots, roots, or apparent continuity with the neighbouring organs. They are distinguished from the encephaloïd by their fibrous density, a homogeneous density, which remains for a long time the same in all the knotty swellings of the tumour; and in this, that the ulceration proceeds from the surface inwards, like that of scirrhus, instead of proceeding from the interior to the exterior, giving rise to mushroom-like medullary growths, to fungous vegetations; let us add, that the fibro-plastic tumour contains neither lactescent nor cancerous juice, nor the special cellule of which I have spoken elsewhere.

If, I repeat, these differences permit us to distinguish with sufficient ease the principal forms of cancer in the two first periods of the disease, it is not altogether the same in the end. It seems, in fact, that the more they remove from their point of departure, the more these sorts of tumours tend to approach each other, to be confounded. It is thus that the partial parenchymatous scirrhus often ends by involving the whole mamma, and by being no longer distinguishable from the scirrhus *en masse* or *d'emblée*,* the scirrhus which has seized on the breast at once, at the first brunt or attack. The lardaceous scirrhus, whether partial or *en masse*, seldom fails to become ligneous as it grows older; both at length sometimes become complicated, either with the ligneous scirrhus, disseminated or plated, of the integuments, or with the multiple pustular scirrhus.

Once ulcerated, the scirrhus, whether atrophic or lig-

* *Emblée*, seized on at once; carried at the first attack or brunt.

neous, of every shade, or lardaceous, frequently combines with tubercles, knotty swellings (*bosselures*) of various tints, which more or less resemble encephaloïd swellings, colloïd or fibro-plastic. I have often seen the scirrhus *en masse* and lardaceous, become then hollowed out like ligneous scirrhus, at certain points, and become covered with fungous vegetations, which it were difficult not to take for the encephaloïd.

In the course of their evolution, these various tumours have, besides, some common consequences; they all tend, for example, to pervert, to destroy the tissues which surround them. They will have, also, as a common tendency, the giving rise to ganglionic enlargements. Scirrhus, like the encephaloïd, becomes complicated with secondary tumours under the external edge of the great pectoral, or in the hollow of the axilla. A little later, the ganglions of the supra-clavicular region themselves, and those of the cervical region, are seized in their turn. I have ascertained, however, that the plated scirrhus (*scirrhus en plaques*) produces less rapidly than the others the alteration of the lymphatic system, which resists still somewhat more, but not always, as is asserted incorrectly by certain modern micrographers, to the reactions of the chondroïd and fibro-plastic tumours.

ARTICLE II.—DIAGNOSTIC BY MEANS OF MICROSCOPIC ANATOMY.

A long series of ages occurred before pathological anatomy occupied itself with cancer. Ancient authors confined themselves to the external characters of the tumour—to what it presents appreciable at the bedside of the patient. Laënnec is, in reality, the first who, armed with the lights of analysis, entered on this question; it was he who first showed that cancers are formed of a peculiar tissue, and that all solid tumours of the breast are not cancers; it was he who first maintained that in cancers themselves we must admit several species; that the encephaloïd and the

scirrhus, for example, represent two cancers essentially distinct. But that was only a first step, the result of a first effort; and science, as well as practice, required something more complete.

A new phasis of this study has been entered on during the last twenty-five or thirty years. Assisting in the impulse in 1826, struggling against the doctrines of the period, I said: * "Even were it true that all degenerations or morbid productions were the product of inflammation, surgeons would not the less be obliged to admit the different species recognised by modern pathological anatomists as so many diseases of a different nature. Those alone who devote their attention to the study of speculative medicine, can deny the importance of these distinctions. We even think that *much remains to be done in this point of view*. Thus the removal of hæmorrhoidal tumours resembling those we have cited above, and those we shall mention presently, † is not followed by analogous productions in the viscera; whilst, on the other hand, the removal of a cerebriform mass is *almost constantly* followed by this troublesome reproduction. And amongst cancerous tumours themselves, are there not some much *more dangerous than others*? Is it not to these differences, occasionally so trivial in appearance, that there must be ascribed the opposing results obtained by practitioners equally instructed, equally to be commended? is it not in these shades of difference that we find the explanation of the diversity of opinion which still prevails amongst surgeons, respecting the utility or the dangers of the removal of these tumours, or the possibility or impossibility of a radical cure?"

I had then already felt that the classification of cancers, and the distribution of tumours of the breast, required to be profoundly modified.

* *Archives Générales de Médecine*, t. xii. p. 513.

† Article consecrated to the exposition of the various sorts of operations practised at the Hospital of the Faculty, where I at the time performed the duties of head of the clinique.

Thus have I endeavoured, from that period, to separate from cancers the tumours, which, in reality, have neither the composition nor the malignity. To effect this picking and choosing, to remove from the category of cancers, tumours of a different nature, I invoked, by turns or simultaneously, the concurrence of all possible modes of investigation,—the assistance of chemistry, of the microscope, and the results of clinical observation. If hitherto chemical analyses have remained barren in results in this respect, it has not been altogether so with the microscope and clinical observation.

The observations I published from 1823 to 1830, on the alterations of the blood, whether by pus or by the cancerous matter, led me to suppose that chemistry would find in the altered liquids, materials differing from those of the normal state; and that perhaps we might be enabled in this way to discover the elements of cancer in the blood. It seemed to me, on the other hand, that the microscope could not fail to recognise special molecules, whether belonging to cancer or to pus or to some other pathological production, in the midst of alterations so profound, so material, so distinct, which the blood of the cancerous sometimes presents; alterations of which I gave, in 1824, 1825, 1826, and 1827,* so strange examples. Moreover, I solicited earnestly, M. Donné first, who no doubt led the way to the revival amongst us, twenty years ago, of the importance of the microscope; next, M. Mandl, to search in the blood for the molecules of pus, of cancer, and of every infectious disorder.

I regretted, and I still regret, that on this subject the efforts of these observers remain as sterile of results as those of the chemists. In fact, I said then, “let the microscope enable us to detect in a drop of blood the molecules of cancer, with which the patient may be affected, and we shall comprehend that the surgical

* *Archives Générales de Médecine*, 1825.—*Revue Médicale*, 1825, t. i. p. 217—343; t. ii. p. 177; t. iii. p. 257; and May, 1827, &c.

operation cleared up by this fact, ought to be accepted or rejected absolutely."

In the meantime, our thanks are due to the microscope for the efforts it has made in another sense, and for some important results we already owe to it. Its investigations have been directed to the intimate composition of tumours themselves. After numerous trials, after oscillations which, perhaps, do not yet touch their end, certain forms of cellules may be demonstrated in cancerous tumours, to be found but rarely, if at all, elsewhere. In 1837, a young *savant* of Germany, M. Gluge, at present one of the most distinguished men in Belgium, devoted himself, under my immediate inspection, and at my special request, to inquiries not new to him, and which already led him to believe that the cancerous tissue might be distinguished without much difficulty from every other.

All learned Germany has since been ardently engaged in similar inquiries; and its literature possesses at present on this subject the inquiries of an infinity of observers, amongst whom may especially be distinguished MM. Müller, Vogel, and lastly, M. Virchow.

In Paris, this new route has been explored for about ten years, with the utmost care and a perseverance the most commendable, by M. Lebert, around whom may be grouped MM. Robin, Follin, Broca, Gaillet, and a host of *savants*, younger, but equally studious. Here is the state of our knowledge on this subject.

I borrow the *résumé* from M. Follin, one of my most distinguished hospital dressers (*internes*); I shall say afterwards what is to be thought of it.

"Microscopic examination has shown, that cancer includes *nucleated cellules*, *free nuclei* having *nucleoli*, finally a number (*ensemble*) of granulations, known by the name of *molecular granulations*. These various corpuscles united with each other, next with other elements of the organism in various proportions, constitute the different forms of cancer.

"The *cellules*, although of various aspects, have a common type, which gives to them a stamp of speciality.

They vary much in size; the smallest have only about $0^{\text{mm}},007$; others are often met with which have $0^{\text{mm}},060$; moreover, these dimensions so variable, may be met with in the same tumour. Their shape has nothing absolute in it; sometimes they are exactly circular, most usually very irregularly rounded; they may be elongated in one of their diameters, and present tail-shaped prolongations, giving to them a special physiognomy. They are at times exactly circumscribed by a black line, which in certain cases appears to have a double contour; but in others, the paleness of the cellule prevents us from distinctly perceiving a wall, and it is only by varying the mode of illumination that we are assured of its existence: finally, it may be impossible to distinguish a wall and a cavity.

"The *nuclei* have always appeared to me to play an important part in the histology of cancer, and if I were allowed to sum up my entire opinion in this matter," says M. Follin, who speaks as M. Broca,* "I would say, that there may be cancers without cellules, but never without nuclei. The abundance of nuclei has often deceived beginners in micrography, by causing them to take corpuscles for certain varieties of epithelium, and mistaking cancerous tumours the most distinctly characterized. Remarkable for their regularity, their rounded and obscure forms, their more or less regular shape, seldom angular or cordiform, their nuclei varying in volume, and attain generally $0^{\text{mm}},01$ of a diameter.

"They are always darker in colour than the enclosing cellule, and their contour is formed of obscure granulations, pressed the one against the other; this general disposition renders them more visible than the cellules, and besides, they are not acted on by acetic acid; accumulated in great numbers in a tumour, they constitute a form of cancer which might be called *nuclear cancer*."†

In the nuclei are found nucleoli. These globules, of extreme tenuity, revealed occasionally by glasses of con-

* Memoir cited, p. 476.

† Broca, p. 476.

siderable power, may nevertheless be absent. In general they are 1, 2, 3, 4, &c., in number, and reflect the light like fatty matters; some experiments made with ether, have in a great measure convinced M. Follin of their fatty nature.

External to the nucleus, between this body and the cellular wall, there are met with a greater or less number of exceedingly small molecular granulations. These granulations forming the cellular containing part are variable in number, colour, nature. Very transparent cancerous cellules are met with, and others darker; those containing melanic granulations belong to a peculiar form of cancer.

Such is the constitution of the typical cancerous cellule; but by the side of the general fact are seen the exceptions. Occasionally we find cellules without apparent nuclei, and in this respect three cases may present themselves: sometimes the nucleus is masked by the molecular granulations dissolved by the acetic acid; sometimes they really do not exist; sometimes, finally, it disappears under the influence of a peculiar change occurring in the cellule. These morbid states of the cellule are not rare, and M. Follin has drawings which prove this progressive degradation of the nuclei. In the place of the nuclei which have disappeared, it is common enough to meet with some oily drops.

The nuclei, besides, vary much as to number; two or three is the more usual number; M. Broca* says that he has found twenty in a single cellule.

Some micrographers, M. Virchow† especially, have called attention to these parent cellules. But this author appears to have taken for such, large concentric cellules of epithelium, or, perhaps, what M. Courty‡ names caducous cancerous cellules, and which resemble epithelial cellules flattened or dried up.

Do cancerous cellules themselves undergo a successive

* *Mém. de l'Acad.*, t. xv. p. 481.

† *Die Endogene Zellenbildung des Krebses*, Von Virchow, p. 157, 1851. Dritter Band.

‡ *Comptes Rendus de la Clinique de Montpellier*, p. 135.

development which alters their forms? does a young cancerous cellule differ from one already old? Several micrographers have endeavoured to solve this problem. M. Courty,* especially, seems to have followed carefully the development of what he calls the *embryonary cancerous elements*, to the condition of *faded* (caducous) *cancerous cellules*. The simple nuclei, the small and transparent cellules, form a part, in his opinion, of the first category, and they will be found in the tumours which have suddenly acquired a considerable size, and in certain tumours of the bones; in the second must be placed certain large thick cellules, with doubtful margins, with a nucleus which has partly lost its form, dimensions, consistence, and which are not rare in certain old cancers of the neck of the uterus.

All this affords a proof that in a drop of cancerous juice one may meet, along with a common general physiognomy, elements sufficiently varied. Thus may be explained the expression of Vogel: "The *histological characters of cancerous tumours vary greatly*, and very often they differ in the *various parts of cancer*."†

Here, then, is the present position of the micrography of cancer, according to the micrographers themselves. Let us now proceed to the interpretation of the facts.

Do cancerous cellules contain or not elements distinct from those met with in the organism in a normal condition? The German histologists, MM. Müller, Vogel, Virchow, seem to deny it. They admit that all the tissues are developed at the expense of certain primary cellules, of which the normal elements of the organism are but the secondary transformations. According to this purely speculative idea, cancer itself would equally be derived from the primary cellules: the cancerous cellules vary to infinity, and their differences would depend in a great measure on the degree of development attained by the primary cellules.‡

* *Comptes Rendus de la Clinique de Montpellier*, 1851, p. 125 (On the Relative Malignity of various Tumours).

† Vogel, p. 266.

‡ Ibid., p. 267.

Thus M. Vogel does not attach to the cancerous cellule the importance which others recognise in it. He admits in cancer an amorphous substance, firm, resembling coagulated fibrine, and which encloses molecular granulations. This is the liquid cytoblastème of cancer. This substance changes into fibres, cellules, &c., and in some rare cases it constitutes the predominating tissue. One cannot, then, determine the nature of the disease but by examining other portions more developed, or the diagnostic may become altogether impossible; for the firm amorphous substance has nothing in itself which characterizes cancer, and it does not differ from the solid cytoblastème of other accidental productions.

M. Vogel recognises, besides, in cancer, molecular granulations and two sorts of cellules. Of these, the one, never passing, in the course of their evolution, beyond the condition of cellules, are destroyed without having abandoned this form; these are the *cancerous cellules*, *properly so called*: the others may, as they become developed, give rise to various tissues, especially to fibres; consequently the cellular form is with them but transitory; these are the cellules of development.

Endeavouring to establish as a fact that cancerous cellules vary to infinity, from their primary forms to those more complicated, M. Vogel adds, that the name of cancerous cellule cannot be applied to any determinate form: that in examining a cellule with the microscope, one cannot generally say if it belongs to a cancer or not; but that, after all, uncertainty ceases when we inspect masses, and this as well by reason of the diversity as on account of the peculiar characters belonging to each.

M. Vogel's opinion is thus an eclectic doctrine agreed to by a great number of German micrographers. M. Virchow,* who rejects the results of the micrometric measurements, professes that certain epithelial cellules

* Virchow: *Zur Entwicklungs Geschichte des Krebses nebst Bemerkungen über Fettbildung im thierischen Körper und pathologische Resorption*, von Reid Virchow, 1847 (im *Archiv. für pathologische Anat. und Physiolog. und für klinische Medizin*, p. 108).

resemble cancerous cellules; that the parent cellules exist also in cartilage; that the cellules of melanic cancer resemble those of the choroid pigment; "that cancer is not a heterologous tissue, and that the thinnest parts of its substance are not essentially distinct from those found in harmless tumours, or of the primitive tissue of the embryo."

As to M. H. Bennett,* the cancer of the mucous membranes of the skin and of the bones is only the augmentation of the primitive structure, a true multiplication of the normal structure. The author is thus led to admit a kind of identity between the normal cellules of the liver and the microscopic elements of cancer of this organ. "It is important to know," he observes, "that the young pavement-shaped cellules of the epithelium, seen isolated, present all the physical characters of the cancerous cellule. This is what happens when they remain for some time in the serum or mother fluid, but when studied *en masse* they may be readily distinguished. The epithelial cellules have a disposition to reunite in groups, to adhere at their extremities, and they are of uniform size. The cancerous cellules have not this tendency; often separated by granular and molecular matter, they never adhere to each other, and vary much in size."† It is easy to see from this that M. Bennett's ideas resemble those of M. Vogel.

Nowhere do we find the speciality of the cancerous cellule so distinctly stated as in the works of M. Lebert,‡ who, taking up the objections of MM. Vogel, Virchow, and Bennett, endeavours to show that they yield to the rigorous examination of facts. Thus "the doctrine of primary cellules is a fantasy of the German mind; the metamorphosis of the pretended primitive cellules has in itself nothing to demonstrate or to prove it; in their rigorous expression, the material facts do not support the anatomists of the school of M. Müller.

* *On Cancerous and Cancroid Growths.*

† *Ibid.*

‡ *Physiologie Pathologique: Traité Pratique des Maladies Cancéreuses.*

"It is under the influence of speculative ideas that M. Vogel believes that he sees in cancer two kinds of cellules,—the cancerous cellule, properly so called, and the transitory. M. Virchow would bring us back to the infancy of micrography: were we to adopt, with him, the opinion, that certain epithelial cellules resemble the cancerous, the flattened form, the smallness of the nucleus, the angular irregularity of the contours, the size, &c., will never permit of our confounding an epithelial cellule with a cancerous. Finally, according to M. Lebert, cancer includes a specific element, the cancerous cellule, represented sometimes by the nucleus alone, sometimes by the nucleus surrounded by its cellule.

"Cancerous tumours may become infiltrated with fat, and assume a tuberculous or pigmentous aspect, and then they are called melanic; a gelatiniform substance, enclosing a few delicate fibres, occasionally is united to the cancerous cellules, of which some are simple, the others parent or multiple; this addition of the gelatiniform substance constitutes the colloïd form of cancer. A thousand other elements may, then, be added to cancer, and momentarily mask its aspect; but the microscope will always discover this characteristic element, the cellule, the speciality of which has been proved by the labours of MM. Robin, Broca, Hannover, Sédillot, and my own" (M. Follin).

I agree with M. Lebert, that it is generally impossible to confound the cancerous cellule with any other, when it is perfectly developed, or without any alteration; but I also coincide with M. Virchow in the opinion that certain epithelial cellules, and especially the pavement-formed epithelium, resemble it considerably in certain cases; that the numerous alterations of its circumference, the variable number of the nuclei, of the nucleoli of the granules which infiltrate or lodge there, may render the confusion easy in a number of circumstances. Besides, we have just seen that the different micrographers are far from being agreed as to the characters and nature of this cellule. The opinion of M. Vogel differs remarkably

from that of M. Lebert, and M. Virchow on his part does not accord with M. Müller; even in France some disunion of opinion already appears between M. Follin, M. Kuss, or M. Robin, for example, and M. Lebert or M. Courty.

The science is still too recent, the instrument too difficult to handle, for all to be at first agreed as to what may be seen.

The researches of M. Lebert are numerous, it is true, and bear the stamp of great exactness. I have myself witnessed his efforts; a considerable number of the observations he has published were made on tumours which I gave him, or which have been obtained from my practice in the city or hospital.

According to him, there is no cancer without the cancerous cell, no cancerous cell without true cancer. But I have often explained in my public lectures, in presence of the author himself, since 1845, that it is impossible for me to admit thus distinctly the correctness of such an opinion. I have seen tumours clearly cancerous in which it has been found impossible, even by M. Lebert himself, to prove the existence of the specific cellule. I may mention especially the case of a young man, aged seventeen, on whom I operated for sarcocele, in the Hôpital de la Charité in 1848. After removing the tumour, it was entrusted to M. Lebert, who examined it, and not finding in it the specific cellule, concluded, contrary to my formal opinion, that the tumour was not cancerous. The patient recovered from the operation, went home, and returned to the hospital, after some months, with new tumours in the abdomen. He soon died; and we found the abdomen filled with enormous masses, soft, medullary, cerebriform in appearance, and in part liquefied.

The cancerous cellule sought for in these masses by M. Lebert was not found any more than in the primitive tumour, and the microscope could only defend itself in the presence of such a fact, by denying to the tumour the cancerous character, and arranging it with the class of fibro-plastic tumours.

In February, 1852, I removed from the breast of a woman a lardaceous schirrus, mingled with encephaloid clews and some phymatoid masses (Plate III.), in which MM. Lebert, Follin, Robin, Broca, and Gaillet could not discover the cancerous cellule. Nevertheless this tumour was certainly a cancer.

Before operating, as after the dissection, I announced the tumour to be a lardaceous scirrhus, a cancer of the worst kind: in discussing this fact in the amphitheatre, I did not hesitate asserting, despite the information just given me by the micrographers, that we had before us one of the varieties of cancer the most subject to relapse. Now the patient, who recovered from the operation, the wound having healed, soon saw new tumours form around the cicatrix, and fall into the cancerous cachexia the most complete! Does not the example of anomalous cancer related at page 53, give the most signal refutation to the pretensions of the microscope; with its cellules to the left where the disease might be harmless, and its want of cellules to the right where the cancer was evident? I have seen, on the contrary, tumours positively harmless, enclosing the cellule called cancerous. Thus a small tumour, clearly adenoïd, which I removed in 1845 from the breast of a lady, contained cancerous cellules.

OBSERVATION.—*Adenoïd tumour; cancerous cellules: an unmarried lady of twenty-three years. Extirpation: radical cure.*

Miss M——, quay of the Mégisserie, tall, rather thin, regular, in other respects well, had in the left breast for several years, a small tumour, respecting which I had been consulted at my own house a long time ago. This tumour, which the patient ascribed to pressure from the corset, and which had been stationary for three years, had become double the size in the last three months. Some shooting pains at last were felt, and this especially induced the patient to ask my advice. Elastic, somewhat fungous, irregular, of the form and size of a large

almond, this tumour seemed free in the tissues like a foreign body, two centimetres (0·7874 in.) above the nipple. I removed it, with the assistance of Dr. Pichon, the family doctor. The operation and its results presented nothing peculiar, and in a month the wound was cicatrized. Miss M—— married a year afterwards, and no appearance of any relapse has manifested itself.

Pathological anatomy.—In consistence, external aspect, and section, this tumour resembled strongly a large lymphatic ganglion, hypertrophied, but it was a little paler, more grained or granular, less easily crushed, and of a fibrillar texture, evidently less homogeneous. Submitted to two distinguished micrographers, MM. Follin and Lebert, they found in it cancerous or encephaloïd cellules in a certain quantity. Whether it was that my ideas were less fixed then than now, whether it was that the cancerous cellule may exist elsewhere as well as in cancer, it is still certain that no tumour ever appeared to me more harmless, and that I continued to believe that there would be no relapse.

A simple hæmatic tumour, occupying the substance of the upper jaw in a young woman of the hospital, and which had never shown, either before or after the operation, the slightest character of cancer, was examined by M. Lebert, who found it filled with cancerous cellules.

In 1851, I removed a portion of the calcaneum and of the heel of a young teacher, who had for a long time suffered from caries and fungous degeneration of the heel. In a clinical point of view, the disease bore no resemblance to cancerous affections. Nevertheless, M. Broca, who examined these fungosities with the microscope, found them filled with the so-called cancerous cellules. The patient recovered, the wounds cicatrized; he is now perfectly well, and I do not hesitate affirming that the disease was in no way cancerous.

It would be, then, imprudent to accept, as regards the present, the cellule, on which so many micrographers insist, as the absolute character of cancer.

To get out of the difficulty, it is said at present,* that it is not with slices of the tumour, but with the entire tumour alone, that a correct or positive examination can be made; and that when this condition is not observed, the facts have no value. The absolute advocates of the cellule did not mention this difficulty at first. Then, when I gave them specimens to examine, it was they themselves who most generally selected the portions when they have not taken the whole tumour. As regards me, their conclusion of "not having received" (*fin de non-recevoir*), is not well founded.

A remark, besides, has always stopped me when the question arose of taking a side on the occasion of this cellule. Forming the fundamental cancerous element, it ought to be found in the blood of those exposed to the general infection of cancers. Now, not only has no one been able to show its presence in the circulatory system, but even its volume, its dimensions, render its passage through the capillaries or porosities of the vessels impossible. It will be objected, it is true, that to effect the absorption, the organs, the living tissues, decompose it; that it is not taken up as it is, or in all its integrity; that it enters, in a word, only by its constituent elements, by its nuclei, its nucleoli, its granules, or its blastema, into the mass of blood. But then, of two things, one: either its elements, its blastema, proceed to reconstruct it in the midst of the circulating element, and then it ought to be found there: or, otherwise, if it cannot re-form itself in other organs before leaving the vascular system, one is compelled to admit, that before the cellule there are other cancerous elements in the blood.

M. Lebert, like MM. Courty and Broca,† considers, besides, the cancerous cellule as a kind of morbid entity, a peculiar being, whose existence shows several phases,‡

* *Gazette des Hôpitaux*, Janvier, 1853.

† *Op. cit.*, pp. 503, 504.

‡ *Maladies Cancéreuses*, pp. 22 to 29.

which has in some measure an infancy, an adult condition, an old age: which may be in a normal state or altered, diseased or decomposed; he admits also that this cellule requires a primitive blastema.* But then, whence comes this blastema itself, if it be not from the blood? and how could it engender the cancerous cellule if it were not, above all, cancerous itself?

I have seen in some patients—in the dead body of a woman amongst others—who died of secondary cancers a long time after the extirpation of a cancer of the breast, the large vessels, the aorta especially, and the abdominal *vena cava*, filled with a concrete matter resembling the cancerous. Sharing a doubt thrown out at the time by Breschet and M. Andral respecting this fact, M. Broca† believes, it is true, that these intravascular masses were only vegetations, prolongations of the tumours from without. But, on the one hand, the specimen having macerated for several days in alcohol, was naturally much altered when my *confrères* were called on to examine it; and on the other hand, their explanation would apply at the most to one of the masses of which I have spoken, seeing that evidently there was no continuity between several of these concretions and the external tumours; it could not, therefore, be doubted that the cancerous matter existed in this patient in the blood; I published the case in a very detailed manner,‡ and the pathological specimens, drawn with care, became, in the Academy of Medicine, a subject of interesting discussion.

In my opinion, the cellule called cancerous is only a secondary product, instead of being the element *sine quâ non* of the disease; and there must exist, besides, some more intimate element which science still requires, to determine the true nature of cancer.

Once accumulated in the bosom of tumours, the cancerous cellule seems to play there an important part;

* *Phys. Pathol.*, t. ii. p. 257 et suiv.

† *Mémoire cité*, p. 604.

‡ *Cas Remarquable de Maladie Cancéreuse*, &c., 1825.

we found it in abundance in the encephaloïd tumours especially, and in a proportion the stronger that the cancer is fungous; the cancerous juice itself contains frequently a prodigious quantity of these cellules, and the clews of cerebriiform matter are at times almost exclusively composed of this singular cellule. Admitting the specific cellule, there ought to be only one kind of cancer, and this is in fact what micrographers are disposed to maintain; it is a fact, however, which appears susceptible of being disputed, and which is not admitted by M. H. Bérard,* and what M. Courty† seems also disposed to doubt.

It is very true that the cancerous cellule, that the cancerous juice, lactescent or creamy, are found in the encephaloïd as in the scirrhus, where, in fact, they differ merely in relation to their proportions; it is true also that in all forms of scirrhus there is fat, fibro-cellular tissue, vessels, as in the encephaloïd cancer; but it does not follow from that, that these two kinds of tumours are but shades, simple varieties, or different phases of the same disease. We do not see, no one, perhaps, has ever seen, a ligneous scirrhus, well marked, become an encephaloïd tumour, or not continue ligneous from the commencement to its complete destruction, to the death, in fact, of the patient. Moreover, I have never seen the encephaloïd cancer, perfectly established, assume the evident characters of scirrhus, at any period whatever of its evolution. A well-marked scirrhus and an evident encephaloïd, besides, so little resemble each other, at the commencement as at their termination, that it is truly difficult not to admit decided differences between these two sorts of tumours. We observe, it is true, in some cases, the scirrhus and the encephaloïd associated, mingled, either in the same tumour, or in the same person, at different points; but even then, each tumour still preserves most of its distinctive characters.

Is it not true, also, that with a few exceptions, each of

* *Dict., &c.*, t. vi. p. 270.

† Page 90.

these two tumours produces only similar tumours? A scirrhus, for example, will be followed by scirrhus tumours in the neighbourhood, and even in the viscera, if the disease becomes generalized. If the difference between them depended solely on the larger proportions of cellules or of solid tissues, why should the secondary tumours of the liver, lung, heart, muscles, thyroid body, all have the lardaceous hardness, or ligneous, or chondroid, in organs so different in their texture, in respect alone of the disease having commenced by a scirrhus? Why does an encephaloïd generalized give rise to encephaloïd masses only, wherever it may occur?

A woman, operated on for scirrhus of the breast, died with hundreds of scirrhus or of chondroid tumours on the surface of the pleuræ (page 40, Obs. I. and II.); in Count G——, who had a melanosis of the orbit (page 38), melanic tumours alone were found everywhere, on the external surface of the intestines, as well as in the parenchyma of the viscera. All the organs, all the tissues, liver, lung, heart, brain, thyroid body, muscles, were filled with small scirrhus tumours, in a woman attacked at the same time with intra-vascular cancer, and all this simply because the woman had at first an external scirrhus; which proves besides, in opposition to Scarpa,* that the glands and integuments are not alone subject to scirrhus, as other facts have proved to me that the encephaloïd may originate on the free surface of serous membranes.

In studying the different forms of cancer, it may be that the transition from one to the other appears insensible. From the ligneous scirrhus to the lardaceous scirrhus, from the lardaceous scirrhus to the chondroid cancer, from the chondroid cancer to the fibro-plastic cancer, from the fibro-plastic tumour to the lardaceous encephaloïd cancer, from this to the fungous encephaloïd, from the fungous encephaloïd to the colloïd cancer, it is not far, and the line of demarcation is not always well marked, I admit; but this does not prevent the true

* P.-H. Bérard, *Dictionnaire de Médecine*, p. 288.

encephaloid cancer, perfectly well formed, and the well-marked scirrhus, from being two species, entitled to remain distinct. To insist on the contrary, seems to me no more logical than it would be to refuse viewing man as a distinct species, because, in tracing the descending series of the degradation of living beings, we find some men differing scarcely from the orang-outang or chimpanzee, and apes which resemble certain men.

Cancer is the result of an anormal exudation; being evident beyond all dispute, as I think, in the encephaloid cancer, in the chondroid cancer, in the fibro-plastic cancer less evident, but still sufficiently marked in most cases of scirrhus. This exudation, drawn from the liquids of the economy, seems to take place under two different forms,—under the form of *dépôt* or under the form of infiltration.

It is in the state of *dépôt* that the matter exists in cerebriform cancer, to such a degree that the entire masses of the tumour contain sometimes no traces of the normal tissues; that the natural elements of the organ are, at least, so spread out, scattered, or ramified, that there is a difficulty in finding any traces of them. Besides the accumulation, sometimes enormous, of this matter, in certain tumours of the breast, where a sort of cysts, compartments with unequal partitions, enclose them, I have seen them form under my immediate observation, like effusions of blood into the serous cavities; for example, in the glenoid cavity.

In a young person of Havannah, in whom I disarticulated the arm for an enormous encephaloid tumour, and in whom it was not possible to attempt an immediate reunion of the wound, there took place at the end of three weeks an exudation of cerebriform matter, so abundant that in less than ten days the glenoid cavity was completely filled with it as high as the acromial arch. The encephaloid masses or rounded balls were there, without any texture, and so free of all vascular connexions that I removed them at three or four different times, at some days' intervals, with the fingers only, without causing the

slightest loss of blood or the least pain, as if I had to do simply with hematic clots, and without the glenoid cavity or the acromial arch having contracted with these singular dépôts the least organic adhesion.

Without being always equally manifest, the exudation of cancerous matter under the form of dépôt, appears to me equally incontestible in most cerebriform cancers. In February, 1852, a cancerous testicle, which I removed with the assistance of MM. Demarquay and Laurès, offered us a remarkable example of this. The whole tumour was composed of brownish balls, or clews, chestnut-coloured, and of the size of a nut. Still sufficiently firm, though of a fungous appearance, these balls or clews were confined or partitioned off by the testicular parenchyma in numerous large spaces. It was evident that the agglomerations of heteromorphous matter, spread about in the tissue of the organ like so many foreign bodies, had spread out, separated, and heaped up the substance so as to form a sort of small cyst.

The microscope, moreover, has demonstrated what simple inspection did not admit of being misunderstood, namely, that the whole tumour contained a large proportion of cancerous cellules. It is thus that the cerebriform cancer, that the fibro-plastic cancer itself, seems to establish itself everywhere, in the mamma as well as elsewhere.

Thus it happens that the encephaloïd tumours have the air of being encysted, that they are moveable, rolling as it were, in the midst of the organs, whether in the concrete state, or when they are softened. One would say that the blastema, that the elements of cancer effused between the organic laminæ, form at first a kernel or nucleus, which increases afterwards by the addition of new exudations, analogous and of an undefined manner; nevertheless, these exudations are far from always leaving the neighbouring tissues untouched; oftener, on the contrary, the leaflets, the cellular layers, fibrous, vascular, become infiltrated, lost, and can no longer be recognised in cancer. It is by reason of this infiltration that the encephaloïds are almost always

complex in their composition, and that we find at an advanced period normal tissues simply lardaceous, organic layers, as if combined with the cancerous matter, and clews (rounded masses) or foci of exuded matter almost pure. It is this, no doubt, which is also the cause why the encephaloïd cancer presents so frequently in the same tumour colloïd, phymatoïd, fibrinous, or hematic balls or clews, along with masses at the same time clearly, distinctly cerebriiform, and that these various accumulations present besides so great a diversity of consistence in the same cancer.

In scirrhus, everything indicates a different mechanism. It must be admitted that with this form of cancer the heteromorphous matter is also furnished by the blood, by a sort of exudation; nevertheless, scirrhus never gives the idea of a dépôt of an effused matter: at the most it permits us to believe in a fine exudation, much diffused, of the cancerous substance; it is with it, in a word, that one is permitted to imagine or dream of a transformation of the tissue, rather than in a real production of new matter.

I fear that on this subject modern pathologists, who reject the possibility of tumours by transformation, have attached themselves rather to the expression than to the substance. The normal tissues, I am aware, are not susceptible of passing from one nature to another; the muscular tissue will never become nervous, nor a bone be converted into a gland; but if it be true that all the organs have a common basis (trame), that the muscular fibre results from the special dépôt of the fleshy element into cellular tissue, that it is the same with the nervous matter, osseous, glandular, &c., there is nothing illogical in admitting a combination by intimate infiltration of the cancerous blastema with the natural tissues; and why not say, then, that the cancer is a transformation of the diseased organ, a *cancer by transformation*?

When we attentively examine scirrhus, we find the cancerous element and the natural tissues so intimately confounded, so completely identified, that it is impossible

to establish between them the least line of demarcation. The mamma and its constituent elements, at first supple all around, are harder and harder as we approach the tumour, in which they all soon lose themselves, into which they penetrate, and which they evidently assist in forming. Take one of the rays, one of the partitions, which leave, which emerge from the periphery of the cancer, and say if their hardness, which insensibly decreases, does not admit of their being compared to layers of the primitive tissues, simply hypertrophied by some sub-inflammatory action? Is it that in certain forms of scirrhus, in the branched scirrhus especially, the disease really does not commence by an induration, by a sort of transformation of the cellulo-fibrous partitions of the mamma? Is it that in the plated ligneous scirrhus, in the scirrhus which seizes at once large portions of the skin, without previous thickening of this membrane, it is possible to deny the establishment of cancer by transformation? Is it that the scirrhus *en masse*, the hard scirrhus especially, which involves in some days an entire mamma, or even sometimes both mammae, hardening them, withering them up, can be anything but a cancer by transformation?

This does not absolutely say, no doubt, that scirrhus is due to the existence of a new matter in the tissues: but it signifies that then the cancerous matter confines itself to the imbibing the normal parenchymas in such a way as in a manner to combine with them, to appropriate them to itself, and to destroy them afterwards, molecule by molecule, substituting itself for them.

M. Lebert deceives himself, as appears to me, in maintaining that ligneous scirrhus is rich in fibrous tissues of new formation. The solid framework observed in it is so obviously continuous with the natural tissues, that I can only see in it a sort of skeleton of the primary tissues, besmeared with new matter. A remarkable fact in this form of cancer, is the tendency of the tumour to become hardened, to *contract*, to be heaped up on itself, so

as to waste away, to cause to disappear by concentric compression, all the lamellæ attacked by the disease.

It is certain, at least, that between the ligneous scirrhus, for example, and the fungous encephaloïd, there exists an enormous difference, in respect of the arrangement and the physical properties of the cancerous matter. In this respect, then, the scirrhus is truly a cancer by transformation, a cancer by diffuse infiltration and condensation of the cancerous matter; whilst the encephaloïd is a cancer by effusion, a cancer with accumulation in the form of dépôt, simple or disseminated, of the same substance.

With regard to the napiform or chondroïd tumour, although the cancerous cellule has not been seen in it, it does not the less constitute a kind of cancer, a tumour of a new formation, without an analogue in the economy. M. Courty*—who is also of this opinion, and who has not found in the tumours of which I speak, either complete cancerous cellules, or fibres, or fusiform bodies,—says that he has met with nuclei, or what he calls embryonary cancerous cellules.

The keloids, on the contrary, are a real transformation of tissue, because the new molecules which form its speciality are perfectly combined with the natural or cicatricial tissue which gave them origin.

In the chondroïd state, as well as the colloïd, the cancerous matter is evidently a kind of dépôt, instead of causing tumours by transformation; and I may say the same of phymatoïd substances, hematic, or even melanic and pigmentary.

It results from these details, that if cancer forms a unique pathological species in respect of its intimate nature, one is not on that account entitled to say that the encephaloïd, the scirrhus, the melanosis, are only simple varieties of the same disease.

Thus, as I do, M. Courty† observes that the form *scirrhus* does not depend absolutely on the presence or absence of fibrous tissue in cancer. What M. Broca says

* Page 134.

† *Oper. cit.*, p. 91.

in his admirable work, has not convinced me, any more than that the consistence, volume, colour, depend solely on the varied proportions of the cellules of the cancerous nuclei in the tumour, or on the admixture, more or less intimate, of these corpuscles with the blood, gelatinous matter, globules of fat, accumulated in the same compartment or the same tissue. He is also evidently wrong when he denies the cancerous nature of certain fibroplastic tumours and of the cancroïds.

To sum up, and to remain within the true, especially in a clinical point of view, we must admit, in the actual state of science, an encephaloïd cancer, a scirrhus cancer, a chondroïd cancer, a melanic cancer, and an epithelial cancer.

All the forms of cancerous tumours may easily be arranged under these five species, and it is hardly possible to dispute the value of the difference which exists among them. But if any one absolutely will have it that all cancers are fundamentally but one, we must then at least no longer separate the chondroïd tumours nor the epithelial; for the cancroïd, for example, differs not more on dissection or by the bedside of the patient from certain encephaloïd tumours, than these do from scirrhus.

I have never, indeed, entertained the supposition that a homœomorphous cellule, that the epithelial cellule, which constitutes so many normal tissues, which forms the epidermis, warts, corns on the feet especially, was the fundamental element, the specific element of any cancer whatever, of tumours so incontestibly malignant as the tumours called cancroïds. Thus M. Lebert,* and after him MM. Sedillot, Marchal de Calvi, &c., who have well observed this, at first wished to withdraw these tumours from the class cancers, to constitute them into a class of almost harmless tumours, readily cured by operation, which are never reproduced, or which are at least reproduced only on the spot of their origin. I feel surprised that practical men like M. Maisonneuve,† like M.

* *Académie des Sciences, Comptes rendus.*

† *Leçons Clinique*, pp. 16, 28.

Michon,* have allowed themselves to be caught by such an opinion; for the epithelial cancer is in reality one of those which are reproduced with the most pertinacity both in the place of its first appearance, and in its neighbourhood, and even at a distance.

ARTICLE III.—DIFFERENTIAL DIAGNOSTIC BETWEEN CANCERS AND HARMLESS TUMOURS.

The details into which I have already entered, sufficiently show the differences existing between cancer and every other disease; but it is so important not to confound harmless tumours with malignant tumours, that I may be pardoned returning for a moment to the question of their comparative diagnostic.

§ I.—*Transformation of Tumours.*

If it were proved that cancer is but the last period of the transformation of tumours primitively harmless, a more ample examination, a more deeply weighed and balanced semiotic would be useless; but it has been shown above that if the possibility of certain transformations cannot be absolutely denied, it is at the least incontestable that they are rare.

In speaking of *degenerations*, à-propos of cancer, my intention has simply been to show that certain forms of the disease are more connected, or depend more on the transformation of the natural tissues than on a creation of new tissues. In this point of view, scirrhus would be, as I have said, a cancer by degeneration of tissues by infiltration, whilst the encephaloïd would be a cancer by substitution, by dépôt, or by effusion of the same substance.

A question arises of another kind of transformation of the transformation of different kinds of tumours into each other.

Can scirrhus become encephaloïd and reciprocal? Is the napiform cancer susceptible of taking on

* *Gazette des Hôpitaux*, Janvier, 1853.

cerebriform characters by softening, or is it only, as has been said, the encephaloïd tissue in a state of crudity? If it were necessary to take a side, I would rather adopt this manner of viewing the question than the other; it is not with me any matter of doubt, in fact, that many tumours of an encephaloïd nature from the beginning, are hard, lardaceous, almost in the manner of the fibroplastic tissue, and that the swellings (*bosselures*), the balls or clews of which they are composed become softened, assuming the fungous aspect only as they become older.

The pultaceous or putrilaginous softening of these tumours is in reality but an accident of their evolution, the result of an intimate action which takes place in their parenchyma, which tends to destroy them on one hand, whilst they gain or endeavour to extend themselves in another direction.

It is the same with effusions, infiltrations of blood, which take place in their proper tissue, under the form of apoplectic clots, or of ecchymoses, or even of true liquid hematoceles; it is the same also with the serous, or reddish, or purulent collections, which are also sometimes observed; but these various changes may be considered as alterations, as diseases of the tumour, and not as the necessary results of its evolution, of its natural progress.

With the idea that every chronic tumour of the breast may become cancerous, they ought all to be included in the same *anathema*, and there would be no occasion to endeavour to establish distinctions between them; thus nothing, or next to nothing, is found in the authors who preceded my first inquiries, on the characters permitting one to say—this is a cancer, or will become one; that has nothing cancerous in it, and runs no risk of becoming so. Convinced of the possibility of such a distinction, I have unceasingly endeavoured, for five-and-twenty years, to withdraw from the contingent of cancer, different kinds of tumours which do not belong to it. To remove from it certain varieties of hypertrophic or phlegmasic swell-

ings, I had to contend daily in my lectures and in the forum of the Academy, from 1830 to 1847, against the doctrines of Lisfranc, who always maintained, as was done before Laënnec,* that every tumour of the breast led to cancer. It is no longer asserted, as Récamier did,† that a swelling becomes a scirrhus, then an encephaloïd: it is not now admitted, with M. Gerdy,‡ that scirrhus and the encephaloïd are not cancers; nor with M. Roux§ or Blandin,|| that fibrous bodies may degenerate into cancer, or that a blow suffices to transform into a cancer, a tumour hitherto harmless: no one of the young surgical generation would venture to defend such doctrines; but this first result being obtained, it became necessary to search for another.

§ II.—*Adenoïd Tumours.*

Having remarked that certain tumours remain indefinitely stationary, or with characters so harmless that women do not require to be seriously occupied with them,—founding my opinions also on the transformations which blood effused, infiltrated, or accumulated in the tissues undergoes,—transformations undergone also by liquids or other secreted or exuded matters, such as the plastic lymph, the false membranes, the various concretions,—I rested for a moment on the idea of tumours formed by some one of these dépôts; hence the name of *fibrinous tumours*, under which I described them in 1830.¶ The proportion of such tumours increasing in proportion as I had better opportunities of studying their characters, the number of cancerous tumours proportionally decreased. As on the other hand the *fibrinous* might give rise to false interpretations, I substituted for it the term *adenoïd*, which prejudices nothing, which adapts itself to all the shades of harmless tumours formerly confounded

* *Bulletin de l'Acad. de Méd.*, t. ix. p. 452.

† *Traitement du Cancer*, t. i. p. 438.

‡ *Bulletin de l'Académie*, t. ix. p. 559.

§ *Idem*, p. 354

|| *Idem*, p. 392.

¶ *Dictionnaire de Médecine*, t. xix. p. 76.

with true cancers. It is a name, I am aware, which applies to the form. If the intimate nature of each tumour were perfectly known, it would be better, no doubt, to name them from their structure than from their aspect; but despite the efforts of modern micrographers, the science is still far from having reached that point, and I do not believe that it would be proper to name tumours in general, at present, tumours of the mamma in particular, according to their micrographic composition, as M. Lebert has done in his last work.

The tumours of the breast, which I endeavour to detach from cancer, have in reality characters so well marked as to admit of a precise diagnostic. At the hospital, it is seldom now that I hesitate in separating them from all others, that I do not at once establish their diagnostic or existence with as much certainty as if it were an abscess: I may be permitted even to add, that I seldom happen to be deceived on this point, when I give it the requisite attention. In affirming this fact, witnessed during twenty years by many thousand students and young medical men, I wish simply to prove, contrary to what was said in the Academy of Medicine, in 1844, by Blandin, Lisfranc, and M. Roux, and some others, that adenoïd or harmless tumours are easily distinguished, and that no man well acquainted with the question ought to confound these tumours in practice with real cancer, but exceptionally.

Elastic, supple, moveable, rolling under the finger pressing on them, without continuity with the tissues in the midst of which they have established themselves, almost always originating in some external violence, they become developed often with extreme slowness, and scarcely ever become complicated with ganglionic swellings. Whatever be their date or their form, large or small, whether they soften or form abscesses, that they proceed slowly or rapidly,—they, under all circumstances maintain their specific characters to the end, whether pains or not be superadded, whether they ulcerate or remain intact, destroy the skin or leave it alone.

The encephaloïd, which resembles them a little, with which they have been the oftenest confounded, shows itself with very different characters. Although globular, and sometimes sufficiently firm at the commencement, it already begins to be continuous with the surrounding tissues: in displacing it, in examining its mobility, it is discovered immediately that it draws with it the tissues, as if it formed an integrant part instead of simply sliding amongst them. Besides developing itself with a certain rapidity, the tumour seldom or ever remains stationary for years; its increase takes place almost always towards the integuments; it seems as if it required to escape externally, to appropriate the skin, which soon reddens, and speedily becomes confounded with it; whilst the adenoïd tumour remains willingly in the middle even of the normal tissues, without any remarkable propensity to proceed, as it becomes larger, in one direction more than another.

The encephaloïd becomes so frequently complicated with cancerous ganglions under the great pectoral, in the axilla, or elsewhere, that we have in this another distinctive character of high importance; softened, it generally presents irregular swellings (*bosselures*), in which the fluctuation, although false, is sometimes so manifest that it requires much practice to avoid being deceived; in certain cases, however, it is altogether impossible to say for certain what there is, before making an exploratory puncture into the tumour. In the adenoïds, besides the antecedents, which ought never to be lost sight of, there is also this difference: that the knotty swellings (*bosselures*) or the cysts only form isolated points, around which the tumour preserves all its density, all its elasticity. The encephaloïd seldom proceeds quite to the neighbourhood of the skin without altering for the worse; the adenoïd tumour may acquire extreme dimensions, remaining at the same time free beneath the integuments, which it often thins extremely, without destroying its natural character.

Whilst ulcerating, the encephaloïd expands into

fungous, mushroom-like excrescences, which tend to soften more and more, which easily fall into putrelage, or form soft balls or clews; whilst the ulcerated adenoid remains hard, elastic, bleeds little, does not tend to be destroyed, to be detached, and maintains a greyish tint, even whilst becoming fungous.

Thus, at no period of their evolution can the encephaloid cancer and the adenoid tumour be confounded with each other by a skilful practitioner. If A. Bérard* had attended to the preceding remarks, he would not have taken for a mammary hypertrophy the enormous encephaloid cancer which he removed, at Versailles, from a lady of twenty-five years of age; nor would he have maintained later,† that the fibrous or chronic mammary tumours cannot be distinguished from cancer.

All forms of scirrhus are equally susceptible of being distinguished from the adenoid tumour; and first the scirrhus, still more than the encephaloid, is always confounded with the tissues or constituent parts of the affected organ. Never has any one seen a true scirrhus roll, slide between the organic lamellæ which surround or approach it; by examining it, it is shown that it forms a portion of the diseased organ, of which it is only a harder part, more developed, more altered; proceeding from the point of departure, the scirrhus maintains this character: as it enlarges, it seems to involve the tissues, and to appropriate the organs themselves; whilst the adenoid only spreads them out, extends, separates them, in order to create a dwelling-place, to obtain room for itself like a foreign body.

The independence, the mobility, the absence of continuity of the adenoid tumour with the surrounding tissues, form a diagnostic sign so important, that, alone, it is often sufficient to distinguish it from every other tumour of the breast, and may almost be considered as pathognomonic. The chondroid tumours, the colloïd can-

* *Thèse de Concours*, 1842, p. 132.

† *Bulletin de l'Académie*, t. ix. p. 449.

cers, melanic, fibro-plastic, epithelial, never have this appearance; a part of the neighbouring tissues, adhering to these tumours, always confounded with them, cannot be detached by simple decollation (*décollement*).

We see, then, that it is not only possible but, I repeat it designedly, easy to distinguish the adenoïd from the malignant tumours; and as they are, in conclusion, frequent enough, it is still so much taken from cancer.

I have already (p. 357*) stated the motives which prevent me admitting adenoïd tumours being viewed as simple partial hypertrophies of the mamma. The more the facts are multiplied, the more I observe, the more narrowly I inquire into the matter, the more I remain convinced that micrographers are wrong in this respect. As there in reality exist mammary hypertrophies (p. 231†), we have here an object of comparison capable of solving the question. I have seen, in fact, harmless tumours formed by the mammary tissue itself, simply indurated or hypertrophied. I have even seen several shades of these hypertrophic tumours. I have seen some partial, others general, others sub-inflammatory, painful, indolent; some followed a phlegmasic action more or less manifest; others established themselves slowly, without an appreciable cause. In all cases the tumour was unequal, rugous rather than embossed (*bosselée*), evidently formed a part of the organ, could not be displaced but along with it and as a part of it, did not slide in any way amongst its laminæ or lobules. It would, in fact, rather have given rise to the idea of a scirrhus or an encephaloïd, than of an adenoïd properly so called.

If the adenoïd tumour were a hypertrophy of some mammary lobules, it ought to appear to be continuous with the gland, at least at some point of its periphery; nevertheless, it is certain that it may be easily detached by simple enucleation from the surrounding tissues, and that in whatever way it be looked at, it has no pedicle, roots, prolongations belonging to its proper substance.

* Vol. ii.

† Vol. ii.

If formed of several lobules, it may be observed that, continuous with each other, they are simply confined by cellular or fibrous partitions, from which it is possible to disengage them without destroying any essential continuity. In conclusion, the tumour resembles, then, either a chesnut, or a potato, or a mass of lymphatic ganglions, surmounted by a greater or smaller number of accessory irregular swellings (*bosselures*), which have been deposited or developed by puffing up between the lobes, the lamellæ, the dense layers of the tissues constituting the mammary region.

If the mamma were composed of balls or clews (*pelotons*), or of isolated lobules, instead of being formed by a glandular element, retained, imprisoned in a fibrous basis (*trame*), with very close meshes, one might invoke here in favour of a partial hypertrophy what takes place in the formation of lipomas. But it is easy to see that in this respect no analogy exists between the texture of adipose tissue and the mamma or its lobes. There remain, then, only the epithelial, or fibro-plastic nature of the adenoïd tumours, the microscopic composition of their elements, in all respects similar to those of the real mammary tissue. Despite all my esteem for microscopic researches, I do not consider myself as compelled to believe in the identity of composition of the two tissues, from the circumstance alone, that the microscope finds no difference between their cellules; when I perceive, for my own part, by simple observation, the existence of differences so manifest, so well marked, of characters so completely opposed.

§ III.—*Other harmless Tumours.*

Certain scirrhus tumours, for example, cannot always be easily distinguished from the hypertrophic tumours, decidedly hypertrophic, of the mamma; at their outset both lesions appear, in fact, under the form of a tumour, or rather of a tumefaction, of a vague induration of the normal tissues. I speak here only of partial scirrhus and of partial hypertrophy; for the scirrhus *en masse*, whether

ligneous or lardaceous, cannot in reality be mistaken for a hypertrophy of the whole extent of the mamma.

In the cases of partial scirrhus and of hypertrophy, the tumour, generally not large, exceeding only exceptionally the size of an egg, has no precise limits; unequal, flattened, not globular, it is evidently formed by a portion of the natural gland, thickened or indurated. Nevertheless, if the altered point preserves a certain suppleness; if nothing on its surface be depressed; if it causes, by its various rugosities, an evident elevation on the plane of the mamma; if with an elastic and moderate or soft density, often as manifest at the circumference as at the centre, we find it free of adhesions with the integuments; if none of the irregular swellings (*bosselures*) gives the idea of a ligneous hardness; if nothing indicates the shrinking or shrivelling up, the horny toughening of any ray, of any portion of the tumour; if the disease be developed slowly without seeming suffering to the general economy,—we shall be entitled to believe in the presence of a partial hypertrophy, and to reject the idea of a scirrhus. In two words, scirrhus is rather a *dry*, rough, and ligneous tumour; whilst hypertrophy of the mamma is a *humid* and supple tumour, although elastic, and sufficiently firm. Yet it must be confessed, that in certain cases these two kinds of tumour cannot readily be distinguished, and that their confusion, almost inevitable at the commencement, takes away the right to deny absolutely the possibility of a transformation of the hypertrophic tumour into true scirrhus.

The encephaloïd cancer presents occasionally on its part, remarkable analogies with general hypertrophy, chronic indurations, sub-inflammatory or otherwise, of the mamma.

A lady, still young (thirty-five years), who consulted me several times, had the left breast double its natural size, transformed into a nearly homogeneous mass, very slightly embossed (*bosselée*), or worked in *relievo*, elastic, semi-fungous, as it were lardaceous, and having the other characters of the encephaloïd a little firm. At first sight it resembled that caused by chronic swellings (*engorgements*),

indolent hypertrophies; it differed but little from the mamma of the Spanish lady, of which I have spoken in the article *Engorgements*.^{*} Notwithstanding, it could be readily distinguished: the seat of dull, sharp pains, it was covered with a grey indurated skin, thinned at certain points; glands existed towards the axilla; the general health, the digestive organs especially, had already deeply suffered; whilst in the other lady there were no pains, no axillary swelling, no disturbance of the digestive organs, no alteration in the features; her tumour, lardaceous rather than elastic, of nearly the same consistence throughout, presented no *relievo* elevation, and was enveloped by a skin rather distended or joined together than altered.

What is singular the diffuse hypertrophies (page 231†) are more readily confounded with an encephaloid, or even with certain cases of scirrhus *en masse*, than with the adenoïd tumours, which some have endeavoured to show to be a partial hypertrophy. A patient from Soissons (page 386‡) had the right breast nearly treble its natural size, and changed into a kind of globe, the integuments over which were not altered. The tumour resembled pretty nearly that of the Spanish lady mentioned above. Nevertheless, its irregular knotty swellings (*bosselures*), its elasticity, its mobility, the suppleness and independence of the skin, did not admit of the experienced sight mistaking it for a cancer. I have met with a sufficiency of adenoïd tumours of great size to enable me to say now, that always irregularly elevated or lobulated, always moveable in the centre of the normal tissues, these tumours remain distinct to the very termination of the mammary hypertrophy, and that if they could be confounded with anything, it would rather be with the encephaloid cancer, properly so called. The real hypertrophy of the mamma differs less, on the other hand, by its clinical characters from the encephaloid tumours than from the adenoïd tumours.

* Vol. ii.

† Vol. ii.

‡ Vol. ii.

Certain *hematic tumours* also resemble sometimes cancerous tumours, but the encephaloïd or melanic only. Often enough, in fact, the encephaloïd tumour, preserving a base more or less firm, lardaceous or fungous, appears as if surmounted with a cyst, filled generally with reddish serosity, as has been seen in the case of Madame L—— (p. 32).

At first elastic and irregularly elevated, the tumour of this lady attained the size of a large egg of the common fowl in the space of a year; then it became fluctuating, so as to give the idea of a cyst. I drew from it two spoonfuls of a reddish liquid, slightly yellow. The puncture not closing, gives issue to a continued ichorous discharge or leakage, and the portion of the disease which remains hard preserves the characters peculiar to encephaloïd tumours.

A case in all respects similar presented itself at the Hôpital de la Charité in 1848. The tumour, half the size of that of Madame L——, occupied the right breast. I incised it with the bistoury; there came from it half a glassful of blackish-yellow serum: the wound did not heal; the tumour continued to extend, and the patient, who lived at Batignolles, refusing to agree to the removal of the breast, returned often to see me at the public consultation; I thus had an opportunity of observing the evolution of the tumour, of being convinced of its encephaloïd character even to the end.

The young girl sent to me by Dr. Leroy-Desbarres (page 338, vol. ii.), presented an example of *hematocele*, resembling greatly the tumours of which I have just spoken; but in this patient the tumour was very large, inasmuch as by puncture more than a glassful of liquid was drawn from it; since, besides the indurated tissues which formed its case or shell, it still contained in its interior a fungous mass, purely hematic, almost as large as the fist.

Moreover, in following attentively all that has passed that way, one is induced to inquire if the tumour might not have become a cancer in a woman advanced in

life, supposing that time had been given it to be developed, to undergo all the natural phases of its evolution.

It would have been easy in the following case to have taken a hematocele for an encephaloïd.

OBSERVATION.—*Tumour as large as a melon of medium size, and of a hematic nature. A woman, fifty-four years of age. Extirpation: radical cure.*

Madame C——, agriculturist or farmer in the Loiret, short, fat, vigorous, having been always well, mother of several children, which she did not suckle, visited me in the month of June, 1848. I ascertained in her the existence of a tumour almost as large as the head, occupying all the right mammary region: ascribed to a blow received five or six years before, this tumour developed itself slowly, and without causing any suffering; globular or hemispherical in its *ensemble*, it was formed of knotty swellings (*bosselures*), of some size in its free half. Two of these irregular swellings only were of a pale red, under a thinned and adhering skin; everywhere else they were free under the integuments, and all the mass remained moveable against the chest.

Although this mass had been taken for an encephaloïd tumour, for a very advanced cancer, I considered that there was nothing malignant in it; the absence of ganglions in the axilla, with a tumour of so old a date; the freshness, the good physiognomy, the fine appearance of the patient; the look or appearance of the integuments, and their mobility over nearly the whole extent of the mass; the absence of pain, and at two points an evident fluctuation, not to be confounded with the false fluctuation of cerebroïd fungosities, all induced me to diagnosticate a harmless tumour with perhaps a hematic base.

The operation was performed with the concurrence of Dr. Thirial. I first plunged a bistoury into the fluctuating focus or centre, which I divided largely. About a glassful of reddish liquid escaped by this first incision; then I removed with my fingers a mass, as large as both fists, of concrete *bouillie* or pulp, resembling somewhat the

masses drawn from the tunica vaginalis in certain cases of hematocele. But as I had diminished in this way the tumour only by a third, I finished by the amputation of the whole mass and of a great portion of the mamma.

The consequences of the operation, which took place some days before the hot days of June, were in other respects very simple: the wound was dressed as an open wound (*à plat*); it suppurated at first abundantly; the cleansing took place in good time, and the cicatrization was completed by the end of July. There was no relapse, and Madame C—— is at this moment (November, 1853) very well.

On dissection, I found in the specimen removed nothing but a lardaceous mass of natural tissues. Some fibrous clews or balls, of an adenoïd appearance, formed the principal regions: the liquid, the pultaceous matter which I withdrew at the beginning, was contained in one of the halves, as in a vast sac with thickened wall. The walls of the cavern were besides combined with a layer, still tolerably thick, of exuded matter, with which they seemed to be strongly imbibed. There was no line of demarcation between the walls of the sac and the matter of a truly hematic appearance.

Here as elsewhere, the hematic tumour is distinguished nevertheless, by its harmless appearance, by its stationary condition it may continue in for years, by its coincidence with a general natural condition, by its absolute indolence, by its independence as regards the neighbouring parts, with which, notwithstanding, it is continuous, without any distinct line of demarcation.

The *serous* or sanguinolent *cysts*, simple or multiple, which are not rare in the breast, as we have shown on pages 317—342 (vol. ii.), may be distinguished from cancers by this, that their development is almost always insensible, and very slow, by their being disseminated under the form of knotty swellings (*bosselures*) in the tissue of the mamma itself; by this, that the skin covering them generally remains sound, the tissue which

serves as their *gangue** (enveloping hard substance), retaining almost always a certain degree of suppleness and of elasticity; by this, finally, that they have neither the fungous softness of the encephaloïd, nor the woody hardness of scirrhus.

Abscesses.—Two errors are possible in a diagnostic between cancers and abscesses. One may take a cancer for an abscess, and an abscess for a cancer. I have already said, certain encephaloïd tumours become so soft, so fluctuating, that if they happen to be also regular or globular, if the skin covering them be red and thinned, a bistoury may be plunged into them under a belief that they are abscesses. I could not say how often this mistake has been made.

A woman, thirty and some odd years, came to consult me, in 1849, at the Charité, for a tumour of the size of two fists, which she had in the middle of the anterior part of the thigh, in the thickness of the triceps, near the femur. This tumour seemed to me so fluctuating that I diagnosed an *abcès froid* (an abscess *in*, not *of*, the part) or a liquid hematic tumour. M. Michon, who was of the same opinion, plunged a bistoury into it: it was an enormous cerebriform fungus, which required to be extirpated, and of which the woman finally died.

In no part has this mistake been made oftener than in the breast. As regards real abscesses, I have seen a most expert surgeon of my own day extirpate a breast which he believed to be cancerous, although, in point of fact, it was only a large chronic abscess under the mamma. I am aware, through the medical journals, and by some eyewitnesses, that a mistake of this kind was made only a few years ago, in one of the large hospitals at Paris. M. Roux† admits having made this mistake himself, and M. Cruveilhier‡ attributes to A. Cooper a similar error.

One of these mistakes, moreover, is not more surprising than the other; if the encephaloïd cancer can give the

* *Gangue*, from the German. A stony or other substance which accompanies or envelops the metals in the bosom of the earth.

† *Bulletin de l'Académie*, t. ix. p. 391.

‡ *Ibid.* p. 419

idea of an abscess, there is no reason why certain abscesses should not excite the idea of an encephaloid. It is in these cases that the intervention of an exploratory puncture may be absolutely required before deciding on the nature of the disease.

Nevertheless, by giving due weight to the antecedents, to the development, the anterior characters of the tumour, the causes which seem to have excited its appearance, the concomitant phenomena, it will always be possible to avoid any mistake. A fluctuating encephaloid shows in general no inflammatory accidents, and, before being fluctuating, the tumour has been hard, unequal; whilst certain knotty swellings (*bosselures*) give the idea of a dépôt; others preserve their hardness, their elasticity, or their lardaceous consistence, without speaking of the accessory accidents, and of the general physiognomy of the disease. In the case of an abscess, the tumour, more equal, more clearly soft, is less intimately confounded with the skin, which remains of a dirty-grey colour, without any honeycombed or figured aspect; if some knotty swellings (*bosselures*) increase beyond the others, they become thin promptly, and admit of being depressed without resistance: it is all around and over a great part of its extent, that the tumour is, as it were, doughy or a little lardaceous. The patients feel a dull action, some pulsations or throbbings, a little heat; and by diligent inquiry we can almost always discover that the disease commenced with certain inflammatory phenomena.

Erectile tumours, arterial or venous, differ too much from cancers, although susceptible, perhaps, of malignant transformation, to render it useful to study the differential diagnostic, especially as regards the mammary region.

What shall we say of *epithelial* tumours? A woman on whom I operated in the hospital, had under the areola a kind of *morille*, or mushroom-like tumour, as large as the thumb, a little pediculated, belonging to the cutaneous tissue: this tumour was of a harmless nature. In two other patients I have seen on the nipple, or in the

neighbourhood, cracked, grey, vegetating ulcers, analogous to the cancerous pustules of the lips. Without being sure of having seen the epithelial cancer of the mamma, I am thus disposed to admit it. Besides, it would be of little utility to establish a comparative diagnostic, seeing that it constitutes in itself a tumour of a malignant nature.

I know of only one example of a *meliceric* tumour in the substance of the breast (page 314, vol. ii.). Its size, form, in short, all its physical characters, might have given rise to the idea of a hematic or serous cyst, but not at all of a cancer, whether encephaloïd or scirrhus. Nevertheless, I am in possession of an example of a vast *meliceric* tumour in the parotid region, which ended in a cancer, and destroyed the patient. In the preceding fact, the walls of the tumour were very thick; the epithelial matter and the sebaceous matter were in a state of decomposition sufficiently advanced to excite fears that this tumour, if left to itself, might soon have become malignant.

The solid *butyraceous* or *butyrose* tumours have been too little studied hitherto to permit us clearly seizing in what they differ from, or approach, cancers. If they could be confounded with cancers, it would be with the encephaloïd tumours, and not with the scirrhus. To judge of them by the facts known to me, the mistake may be avoided by remarking that the butyrose tumour is *pasty*, and lobulated at the same time, instead of being fungous, elastic, or fluctuating; that it is moveable in the tissues, like the adenoïd tumours, and that the skin unites with, or adheres to it, only at a very advanced period. It may be distinguished from the adenoïd tumour in its turn by this: that it has neither its elasticity nor its firmness; by this, that instead of rebounding under the finger, it admits of being depressed, like butter or fat.

In fact, do the butyrose tumours merit the title of harmless tumours? do they not belong to the category of cancers? It is certain that in the first observation I

made, the disease proceeded like a malignant tumour, and caused the death of the patient. The creamy or the butyraceous matter found by M. Robin in the anomalous cancer, described at page 57, pleads still more strongly in the same sense.

In conclusion, it must perhaps be admitted, that butyraceous tumours, primitively harmless; partial hypertrophies of the mamma, at first simple; meliceric or sebaceous tumours, even adenoïd tumours, have ended by taking on the character of malignant tumours by transforming themselves into cancers. Without giving this conclusion as the last expression of the science on the question of cancerous transformation, I believe it nevertheless useful to repeat it, in order to prevent too absolute conclusions being drawn in the opposite sense.

§ IV.—SPECIAL SYMPTOMS.

By the side of the comparative diagnostic of tumours of the breast, it seems to me useful to place the examination of some special symptoms.

A *Pain*.—Pain is one of the symptoms to which most importance is attached in the study of cancers. Almost all practitioners, as well as the public, consider pain as one of the most essential signs of cancer. According to them, without pain there can scarcely be cancer; and they readily believe that a painless tumour of the breast can scarcely be a cancer. In this respect they are completely wrong. Almost all the harmless or innocent tumours of the breast are occasionally accompanied with pain. The nodosities of the gland, although of a harmless nature, have precisely for their character the being very painful. I have seen I know not how many women tormented for months, sometimes for years, with acute pains in some point of the mamma, without even terminating in the least tumefaction of a malignant nature, without even there being any real tumour in the organ.

How often, on the other hand, have I seen enormous

encephaloid tumours pass through all their phases in women who suffered in no way from them, and who, on that account, could scarcely be made to believe that they were ill. Scirrhus itself, the lardaceous especially, the scirrhus *en masse*, often exists for months without causing any pain. The pustular scirrhus is almost constantly without it, as well as the scirrhus *en nappe* (spread out); the plated or cuirass-formed scirrhus of the integuments; and there is but the partial scirrhus, the hard (ligneous) scirrhus, whether hypertrophic or atrophic, and the radiated scirrhus, with which pain is almost always constantly associated.

Far from me, notwithstanding, be the project of maintaining that cancer is never painful; supported by a great number of clinical observations, I simply affirm that it is not so always; that most cancers only become so at an advanced period of their development; and that from that time pain does not enable us to distinguish cancer from harmless tumours.

Even to-day, I have seen in my apartments an English lady, sixty years of age, who has the left breast completely transformed into scirrhus, with a number of pustules in the neighbourhood, and even in the tissue itself of the mamma. This lady, in whom the disease seems to be of about five years' standing, has suffered so little that she made up her mind, only a month ago, to consult a surgeon for the first time; assigning as a reason for her indifference, that, as she suffered no pain, she did not imagine that she was ill.

In the beginning of 1852, I saw, with Dr. Goujon, a lady, aged seventy-two, who consulted me for a fracture of the neck of the femur, without thinking of a tumour which she had in the right breast. Now this tumour, which commenced some ten years ago, is nothing else than a hard or ligneous scirrhus, surrounded with red, extensively-ulcerated crimplings (*bosselures*), which sends prolongations towards the axilla, and has caused a considerable swelling of the whole arm. The patient, notwithstanding, had never spoken of it to her family, nor

to anybody; she confined her treatment of it to simple dressings, thought of and applied by herself; for this reason, that she suffers nothing, and has never suffered from the disease.

I would insist less on these facts, if the commonly-received doctrine were without inconvenience. Pre-occupied with the pain, which they view as an essential symptom, medical men have long considered as harmless, tumours truly malignant; giving to the patient advice based on this opinion, they permit the disease to make progress, and to generalize itself. On their side, the poor women, persuaded that their breast disease is not dangerous so long as pain is not superadded, remain often in a fatal security, thinking nothing of their tumour at the period when it would be easy to rid them of it.

There passes not a week in which I do not meet with such patients, who, on my blaming them for having neglected to speak of their ailment for so long a time, give me as a principal reason, "But I suffered nothing from it—I had no pain." As I must return to this subject in the chapter on Indications, I shall confine myself here to the remark, that an axiom might be thus laid down on the subject:—"In the mamma, as elsewhere, there may exist pains of all sorts, without there being any serious disease, as well as there may exist formidable diseases, cancers, without the woman experiencing the least pain. Nothing is so dangerous as to measure the malignity or the benignity of the disease by the intensity or the absence of pain in any organ whatever."

This applies only, however, to the first periods of the affection; for it is generally true, and I do not contest it, that at an advanced period cancers become almost all the seat of pain, sometimes very acute; but then the pain is no longer of any diagnostic importance, seeing that the existence of other characters permits us no longer to mistake the disease for any other.

With regard to the nature of the pain in cancerous tumours of the breast, it has nothing in it specific at the commencement; scarcely differing from certain neuralgic

pains, from the pains or shootings occasionally traversing harmless tumours, and even the breast absolutely without any tumours being present, it cannot be of any great assistance in determining the nature of the disease.

Later, however, the pains carefully studied would not be without value, in case the other characters of the affection were insufficient. The pain of cancers is generally pungent, dull, constrictive: it seems to the woman as if the tumour were surrounded with cords tending to break it, or to augment its fixity, its weight; at other times the pain shoots through the breast; it seems as if the breast were traversed by rays, or, as Dupuytren said, by flashes of pain. As respects the patients, it is as if they received thrusts of a knife in the breast; some complain of a feeling of burning, others of a well-marked sensation of cold. In general, this pain spreads by radiations, of which the cancer is the focus or centre. In conclusion, it is the scirrhus much more than the encephaloïd which is accompanied with pain. The chondroïd and fibro-plastic tumours, the epithelial and the melanic cancer, are often exempt, or at least pain is not more frequently present in them than in harmless or innocent tumours.

B. *Discharge by the Nipple.* — A sign or symptom which had scarcely been pointed out in a special manner hitherto, has just been studied by M. A. Richard:* I allude to certain discharges which take place by the nipple. Having observed that amongst some thirty cases of tumours of the bosom, in five or six there took place a hematic or serous discharge by the nipple at an early period of the disease, M. Richard put the question to himself as to what kind of tumours this discharge was to be referred? His inquiries induced him to believe that harmless tumours alone, adenoïd tumours, could alone produce it; that henceforward this would be a diagnostic sign of great value, since it would serve to recognise non-cancerous tumours from true cancers.

* *Revue Médico-Chirurgicale de Paris*, 1852.

Without rejecting absolutely the conclusions of the author, I do not feel inclined to trust them too much until further information be obtained. The slight discharge or leakage from the nipple is a phenomenon I have met with a great number of times; several of the patients affected with it had cancer; but I admit the matter having attached to it a sufficient importance to be entitled to decide on its present value as a diagnostic symptom. I shall add, on the other hand, that other observers who have also remarked it; that M. Lebert,* among others, who gives three examples; as Boyer,† as A. Bérard,‡ speaks of it only in connexion with cancerous tumours. Bérard adds, that it may exist without being followed by cancer. It is, to conclude, a discharge of which there exist several important species requiring to be discriminated. Thus, in the first place the discharge of eczematous affections must be set apart from it; nor must the sanguinolent or ichorous discharge which takes place from chops, fissures, or exulcerations of the root of the nipple in women attacked with ordinary scirrhus, be confounded with it. It is, in fact, a discharge of liquid sometimes analogous to blood, sometimes similar to weak coffee, or to beer, or to reddish serosity, which flows from the interior of the mamma by the nipple itself, without apparent solution of continuity; every thing shows that the liquid escapes by the lactiferous ducts.

Now, why should its presence be a sign rather of innocent tumours than of malignant tumours? The author, who, with M. Lebert, refers adenoid tumours and hypertrophy of the mamma, leaves it to be understood that, being represented by an exaggerated development of the glandular tissue, they ought very naturally to furnish the secretion and the discharge of which he speaks: but I have already said, and proved, I believe, that these tumours are not continuous with the

* *Maladies Cancéreuses*, p. 343.

† Page 223, vii. édit. 1818

‡ *Thèse*, &c., p. 96.

mammary tissue; that they are not a part of the secreting tissue, that no excretory canal comes from them; that from the beginning to the end they proceed like tumours of new formation.

As regards experience, M. Richard, who has seen the ichorous discharge of the mamma only in women attacked with harmless tumours, relates, nevertheless, a fact drawn from my practice at the Hôpital la Charité, which, in my opinion, cannot fail to be embarrassing to him, seeing that this discharge was present manifestly in the case of a tumour whose cancerous nature had been proved, both by the microscope and by simple inspection. Wholly fixed in his opinion, M. Richard remarks, cleverly, that in this tumour all was not cancerous; that there existed a kind of adenoïd tumour, of partial hypertrophy of the mamma, in the midst of the cancer, and that it was from the harmless portion that the discharge came: but besides that the association of similar tumours has never yet been met with in the breast, it must not the less be admitted that this kind of discharge may take place when the tumour is cancerous. It would be of little moment to be able to say in such a case that there exists in the morbid mass a portion of a tumour harmless as well as of cancer.

It must also be observed, that the adenoïd tumours are not the only ones which give rise to it, since M. Richard speaks of a patient in whom it was present, and who was affected with a tumour formed by a simple agglomeration of cysts. It is, in conclusion, a discharge which I have oftener met in scirrhous or encephaloïd tumours than in the harmless tumours, and which, perhaps, must be referred generally to the dilatation or to the irritation of certain galactophorous ducts, disturbed in their relations or in their functions by the presence of tumours, whatever be their kind or nature, developed in the mammary tissue.

C. General Condition.—Few practitioners at present diagnosticate the cancerous nature of a tumour of the breast from the physiognomy of the woman or from the

colour of the integuments, with the exception of some rare cases. Women attacked with cancer of the breast, show at first nothing in their general condition to excite a suspicion of the nature of their disease. When the yellowish or bistre-coloured visage, the physiognomy which characterizes what is called the cancerous cachexia, exists, it is due to this, that the general infection has become established; it is that a glance at the tumour leaves no longer room for doubt, it is that the nature of the cancer is but too evident for a long period. This, then, is likewise a symptom which may be set aside, for it gives no information until it is useless.

All the difficulties of the diagnostic are accumulated, in fact, on the starting point, or the first period of the disease; it is then that the special signs are necessary; it is then also that they generally are wanting, and it is for this reason that it is wrong to attach much importance to those derived from the pain, the cachexia, &c.

D.—To what extent do the results furnished by the microscope in the study of tumours throw light on the diagnostic of cancers of the breast? If by means of this instrument it were possible to distinguish the intimate nature of pathological products, it would become undoubtedly of inestimable value in practice; it would be so easy to take away some fragments of ulcerated tumours; there would be so little danger in extracting a certain quantity of the tissue of occult tumours by means of a needle, of a trocar, or of a canula, introduced by puncture into their depth. So little of the matter to be examined is required for the microscope, that the diagnostic of cancer would be neither embarrassing nor vague. Some micrographers do not hesitate at the present day to admit of such wonders; but what I have said (p. 73) of the cancerous cellule ought to put the profession on its guard against this pretension.

By all means let microscopic researches be called in to aid in the diagnostic of cancer; but in a clinical point of view they would lead to dangerous errors if a real im-

portance were acceded to them. Whatever M. Broca may say,* the cancerous cellule exists, according to the evidence of micrographers themselves, in products which absolutely have nothing cancerous in them. The patient from whom I removed the fungous heel is a conclusive example of this. We still see, on the other hand, as I have already shown (p. 74), that it is wanting in tumours whose malignant or cancerous nature is beyond all doubt. If interrogated at the bedside of the patient, the microscope replies that there is or there is not the cancerous cellule in the tumour, what conclusion would the practitioner draw? What surgeon would venture to act on such information, on a testimony so uncertain?

This is not all: even admitting the cancerous cellule to be the fundamental element, the element *sine quâ non* of cancer, who could affirm that it is absent in the tumour just examined, by this alone, that the microscope has not discovered it in the fragments submitted to it? May it not happen that the exploratory instrument plunged with care into the tissues, withdraws only harmless parcels, although the tumour in fact contain many cancerous cellules? A cancerous tumour is, in conclusion, composed of various elements; it contains cellular tissue, fat, bloodvessels, and frequently the mammary tissue, still little altered. Who does not see that in the observation of M. Richard, for example, where the tumour comprised at the same time an adenoid mass and an undoubted cancer, the exploratory instrument may have withdrawn the non-cancerous tissue quite as readily as the malignant cellule? What, in this case, would have become of the diagnostic?

In a chondroid tumour removed from the thigh of one of my patients, M. Lebert† found by the microscope, on one side all the elements of the fibro-plastic tissue, and in other scattered points, the cancerous liquid, with the typical characters of the encephaloid.

* *Op. cit.*, p. 461.

† *Union Médicale*, 1853, p. 15.

The most expert micrographers admit, that in order to decide on the nature of a tumour, means must be had of examining it throughout, of studying the different lobules or the different lobules. To be certain that a tumour contains no cancerous cellules, would it not be necessary in fact, to have divided it infinitely, to have in succession passed, one after another, all the parcels under the focus of the lens?

We may say, then, of the microscope what I said of the pain; it clears up nothing, and creates only doubt and uncertainty at the time when its aid is most wanted in the first period of cancerous tumours; the diagnosis of the disease is sufficiently clear, on the contrary, when it is in a position to give an affirmative or negative evidence.

Thus, I do not admit that it is as yet possible to diagnose a cancer of the breast by the microscope, better than by means of ordinary semeiology and of purely clinical observation.

CHAPTER III.

NATURE, ETIOLOGY OF CANCER.

FORMERLY it was readily admitted that repeated irritations, inflammation, could produce cancer. Broussais and his school revived this doctrine for an instant, abandoned at present, and which absolutely does not admit of the least examination. Blows, external violence, often accused in such cases, are equally insufficient, in a general way, to explain the origin of this troublesome disease; perhaps, however, the question requires to be reviewed in this respect.

External violence.—If it were sufficient, it has been said, for blows, falls, repeated mechanical irritations, to produce cancers, they might be produced at will: now, all the world knows that it is no more possible to produce these diseases expressly, than to cure the patients.

To the patients who refer their tumour to external violence (and many women affected with cancer in the breast do so), it has been objected that the tumour pre-existed; that the patient had not observed it previously; that the violence has been the occasion and not the cause of this disease. This reasoning may be well founded, but the opposite opinion may be reasonably maintained. If many women recollect nothing as to the cause of their tumour, it does not follow that there may not have existed some pressure, some friction. A contusion, a pinch, are speedily forgotten, may thus become the source of diseases which show themselves long after. It seems to me so difficult in some cases of cancer of the mouth, of the lips, or of the tongue, to deny the influence of a long-continued irritation, caused by bad teeth; so many patients refer the cancer of the lips to the contact

of the pipe, and this etiology appears so evident in certain cases, that I dare not deny its reality in all the cancerous.

The example of blisters, of permanent cauteries, has often been cited as a proof of the insufficiency of repeated irritations to produce cancer. Never, it has been said since Bayle and M. Cayol, has an issue or blistered surface been seen to transform itself into a cancer; how many unfortunate persons have the limbs covered with ulcers all their lives without cancer arising from such a state! and who has ever seen an ulcer of the limb non-cancerous at first, become so afterwards?

I know not what other practitioners may have seen in this respect; as regards myself, I have already met with ten examples of issues or blistered parts becoming cancerous, in the arms or legs. I have operated on six and have seen two others operated on. They all belonged to the epithelial form, it is true, but they have not then less followed out the phases of cancer to the last. One of the patients, a strong and robust man, whom I long treated by cauterization with sulphuric acid, experienced three relapses in the spot. M. Jobert, who attended him later, was forced to have recourse to disarticulation of the arm. New tumours appeared above the collar bone and on the side of the chest, and finally the poor patient died, with all the symptoms of similar tumour in the interior of the chest.

A lady whom I cured of a similar ulcer in the left arm by means of sulphuric acid, was seized a year afterward with lancinating pains in the hollow of the axilla. I went to see her near Gisors, where she resided during the summer, and I found her a prey to the development of a hard and unequally-elevated or knotty mass, very painful, occupying the whole of the axillary cavity. Returning to Paris, this lady, most tenderly cared for, consulted everybody, tried every sort of treatment, yet notwithstanding, witnessed the tumour soon produce others above the collar-bones and on the side of the chest, then ulcerate, take on all the characters of cancer.

and finally cause her death, after atrocious suffering. In another lady whom I saw with M. Vidal, it was an issue of the leg which had undergone the cancerous transformation. I operated on two in the hospital: one, who had a cancer on an old issue, the other on an ancient blistered surface of the arm. The only one of the patients of this kind who has been cured, has continued so for only five years; his cancer, *epithelial*, had already been attacked to no purpose with caustics: assisted by Dr. Delatre, his relative, I extirpated it in the spring of 1848, and the wound, which cicatrized regularly, has caused no anxiety since, although the patient be subject to paroxysms of asthma or of suffocation; and that during the cure, the ganglions of the axilla became swollen and painful to such a degree as to require five or six applications of leeches, at intervals of about ten days.

To those who imagine the cancroïd not to be a cancer, these facts, which all belong to the epithelial cancers, will perhaps prove nothing; but by the true surgeon they will be considered, I believe, as unanswerable.

Without denying absolutely the influence of external causes in the production of cancers, some others limit themselves to the statement that a special predisposition is at least required; that without a predisposition, the external cause would have led to no result.

It seems, in fact, necessary to admit that individuals affected with cancer must have in their organization a certain predisposition to contract the disease, seeing that they cannot be produced at will; but this predisposition being admitted as a fact, science is not thereby more advanced. All diseases might demand the same peculiarity. Without the predisposition, phthisis but rarely establishes itself. The affection called scrofulous requires also an organic predisposition. Is it that certain individuals are so predisposed to lipomas, tumours, steatomas? Is it that pneumonia itself requires in most of those it attacks a special predisposition? Originating on the occurrence of the slightest causes, whilst similar,

much more intense, produce nothing analogous in a number of other persons, it is natural to admit for cancer a special predisposition; but that hinders in no way the necessity of an occasional cause, without which it would not manifest itself.

ARTICLE I.—PREDISPOSING CAUSES.

Nothing hitherto proves that this predisposing cause of cancer exists under the form of heterologous matter in the latent state. It is neither in the age, nor in the sex, nor in the constitution, nor in the state of the general health, nor in the climate, nor even in the nature of the tissues, that it is found.

If it be true that youth is less exposed to it than old age, it is equally certain that no period of life is wholly free from cancer. The cancer of the breast, in particular, is less rare than has been said before the age of thirty years. I saw an instance of it in 1849, in a young girl of seventeen years. The tumour, distinctly encephaloid, was as large as the head of a new-born child. It was removed by extirpation; it returned, and the girl succumbed under a general cancerous infection. I have met with several facts of this kind in women of twenty-five, twenty-six, twenty-seven, twenty-eight, and thirty years. It is between forty and sixty that cancers of the breast are more generally met with, but the other periods of existence are not exempt. The most advanced age itself does not escape. I have the proof in women of seventy-five, eighty, and even ninety years of age. I attended, amongst other two ladies, sisters—Misses C., the one eighty-five, the other eighty-nine years of age, who had each a scirrhus perfectly formed, in the left breast. Besides, if cancer of the breast is more common after thirty than in youth, is it not the same with all the more serious diseases of the organ? More disposed to inflammations between fifty and thirty years, the mamma is more readily affected afterwards with infections purely organic.

In 212 cases of scirrhus observed at the hospital, I found

From 20 to 30 years	. . .	2
From 30 to 40 "	. . .	25
From 40 to 50 "	. . .	76
From 50 to 60 "	. . .	62
From 60 to 80 "	. . .	30

The age of the others was not indicated.

For the encephaloïd in 62 :—

From 20 to 30 years	. . .	5
From 30 to 40 "	. . .	6
From 40 to 50 "	. . .	19
From 50 to 60 "	. . .	17
From 60 to 80 "	. . .	7
After 80 years	. . .	7

Thus it is from forty to fifty, next from fifty to sixty years, that the breast in woman is incontestably most subject to cancers, whether of the scirrhus or encephaloïd kind.

Is one mamma more exposed to the disease than the other? My table shows, that of 212 cases of scirrhus, there were 110 in the left breast, 75 in the right, and 6 on both sides, with 15 not noted : but in 62 encephaloïds, 33 were on the right side, 23 only on the left ; so that for the whole, the proportion is pretty nearly the same for both sides.

The sex does not explain the predisposition to cancer; for if man be less subject to it in the breast than woman, the difference in the functions of the organ perfectly explains the fact, whilst at the same time cancer is not less frequent in man than in woman in a number of other regions.

The habitual health, and certain constitutions, have been often spoken of as a predisposing cause of cancer. There has been nothing true, as seems to me, as to what has been said in this respect. Cancers of the breast appear as readily in those women whose health is good as in the debilitated and valetudinary. How often have I met with cancer in robust women, of good constitutions, in women whom everybody envied for their

good looks: in sanguine and muscular women, as well as in the feeble, nervous, and excitable; in lymphatic and fat women, as well as in the brown, dry, and atrabilious!

In conclusion, my observations authorize me to say that no organic constitution, no state of health, general or habitual, is a security against cancer; and that therefore we need not expect to find in this direction the predisposing cause of the disease. I ought to say as much of the moral condition; sadness, chagrin, distress of mind, mental agony of all kinds, so much blamed by the public, and even by certain observers, have no share whatever in the production of cancer, and if we be permitted to notice such causes, it is rather to please the patient than to fill up a scientific void.

What has been said of regimen is scarcely more conclusive. In supposing that the abuse of spirits, of highly-spiced food, of irritating aliments, of errors of regimen, contribute somewhat towards the production of cancer of the stomach and intestines, it is at least doubtful whether persons addicted to these excesses are more subject to external cancers than others. The cancer of the breast, incontestably the most frequent of all, is observed especially in women whose alimentary régime is foreign to the errors I have just mentioned.

The general habits of life, the kind of occupation, the various exercises, are equally foreign to the predisposing causes of cancer, although the contrary has been admitted by some authors. It is the same in respect of climate, and hygienic conditions generally. I have seen cancer of the breast as frequently in women inhabiting towns as in those of the country; in women who are rich equally with those who are poor and live in misery; in the women of one department as well as in those of another. Everything indicates that the proportional frequency of this disease is pretty nearly the same in England, Russia, Germany, France, Italy, Switzerland, Portugal, Spain; and the inhabitants of North and South America, of the Indies and of Africa, are no more exempt from cancer than the population of Europe. How should it

be otherwise, seeing that comparative medicine demonstrates that the animals, domestic animals as well as those continuing in a state of nature, the carnivora especially, are themselves subject to it.

With regard to the texture or the functions of certain organs, there is no room to doubt the part they play in the production of cancer. It is certain that the testis in man and the mamma in woman, the eye and the lips in both sexes, amongst the external organs, are more subject to it than any other part of the body. The very complex texture of the testis and mamma, of this last organ especially, easily explains the fact; the density, the *dryness* of its cellulo-fibrous tissue; its vascular basis, into which the lymphatic system enters so largely; the consistence of its parenchyma; the number of its lactiferous ducts; the interlacement of its various elements; the presence of a mucous doubling in the excretory radicles; its special functions; all re-unites itself in the breast to attract towards it in some measure heteromorphous productions. Nevertheless, nothing of all this can constitute the predisposing cause of cancer. For those who do not desire to be fed on illusions, or to be satisfied with words devoid of meaning, the best thing to do is to admit that science is as yet completely ignorant of the nature of this cause.

ARTICLE II.—OCCASIONAL CAUSES.

Science is scarcely more advanced in respect of the occasional than of the predisposing cause; what is clear is, that cancer plays in the organism the part of a parasite of an organic species, whose object is to substitute itself for others. A general antagonism has at all times existed in nature. Matter, eternal in its essence, changes perpetually its form and place, to constitute beings, species, destined to maintain a perpetual struggle, which have no other object than to destroy each other, each in its turn being destroyed by incessant substitutions.

If man tends to cause to disappear the species which threaten his existence; if the stronger or the more intelligent beings tend to substitute themselves everywhere for species less favoured by the Creator; it is very evident also that our organism is menaced on all hands, and continually attacked by species which undermine it by making up in number and malignity what they are deficient in in other respects; who can divine, by reflecting on it, the power of the innumerable molecules, of the microscopic beings in the midst of which we live, which inhabit us, and penetrate our bodies in every sense? Who does not see that the natural object or end of these myriads of imperceptible organisms is to dissociate the natural elements of our composition, to substitute themselves for the molecules whose agglomeration represents man and the larger species of animals?

Look at this cancer under the form of a globule, of the volume of the head of a pin; let it proceed; follow it; however despicable may be its volume, let but its form or its power appear, and nothing can stop it; it extends, increases in mass; the parts composing it multiply; it proceeds to appropriate to itself the organ which has received it, to destroy it, to substitute itself for it, to cause it to disappear without leaving of it a trace. If, a little later, the cancer comes to re-act on its own substance, to destroy itself, it will not the less continue to attack unceasingly the organism in the midst of which it has established itself, so as to continue its destruction, until life become extinct.

Once installed in the economy, it no longer confines itself to the region which has at first been sacrificed to it; it spreads either in the neighbourhood by all sorts of ways, or in the vascular system to be disseminated, afterwards scattered about everywhere, and to deposit germs of destruction or of death wherever nature deposits it.

To say with Klenke,* that the cancer, the cancerous

* Broca, *Op. cit.*, p. 495.

cellule, is an independent organ, a semi-individual, susceptible of becoming developed, of multiplying itself when once established in the tissues; or even with Baron and others, that it is a real animal, a hydatid, this would be equally to lose oneself in the fields of supposition, without advantage to science. Observation teaches us that the cancer acts as a parasite, by substitution of active matter, but it does not permit us to go further.

Hereditary predisposition, which flows from the preceding principle, is an incontestable cause of cancer. I have seen a very great number of women in whom this cause was but too evident. More than a third of the patients I have met with have belonged to this category. In some it was the father who died of a cancer of the pylorus, liver, tongue, or genital organs: in the greater number the cancerous disease had existed in the mother, either in the uterus or breast. I have seen families wherein three sisters, daughters of a mother who had died of a cancer of the breast, were attacked between thirty and forty years, with cancerous diseases of the breast. But does this hereditary disposition establish itself? We know not, and nothing indicates at first that it may or may not appear in the descendants of the individuals possessing it.

A fact which must not be lost sight of in the study of the occasional causes of cancer is, that this disease scarcely shows itself at first but in organs susceptible of being reached, irritated, injured, in some manner, by external objects; that, in fact, the frequency of cancer is precisely in proportion to the aptitude of the organs to receive the influences of external violence. What organs are more exposed to friction than the testes and the *mammæ*?—more exposed to excitements of all sorts than the uterus, lips, and tongue?—more exposed to the irritating action of drinks, food, injected matters, than the isthmus of the throat, the gullet, the stomach, pylorus, and some points of the small intestine, the sigmoid flexure of the colon, the rectum, or the bladder? Why, if external causes were foreign to the origin of cancer—why, if this disease

was at first a constitutional affection, would it almost so constantly commence by a very limited part of the economy, and maintain itself for so long a period, the patient enjoying in other respects so perfect health? Why should the general alteration of the body not precede the external manifestation of cancer, instead of following it—instead of being the consequence?

Hypothesis for hypothesis, is it not rational, since at the commencement it seems local, to admit that cancer arises in reality under the influence of some external cause? Once established, it tends unceasingly to infect the economy with its substance, without losing its destructive action. Is it not in this way that the virus, the poisons, proceed? Is it not in this way that the syphilitic virus, the rabies, the poison of glanders, proceed? The cancerous tumour being admitted, one may imagine that an exosmotic movement scatters the molecules quickly about in an atmosphere whose extent cannot be determined with precision. Who can deny that these molecules may not remain in incubation, or in a latent condition in the economy, during a variable time? Why should not the lymphatics absorb some parcels to deposit them in the ganglions? Why may not the molecules of cancer pass also into the small veins bordering on or traversing the tumour? What is there surprising in this tumour becoming quickly the source of a number of similar tumours, whether in the neighbourhood of the first, or even in very distant regions? Is it not evident and easily enough to be understood, that the whole economy ends by being infected? What need is there, in fine, of admitting that cancerous tumours can only be the local manifestation of a general pre-existing disease?

It is asked, it is true, how it happens that an external violence gives rise to a cancer rather than to any other morbid production, and how a similar matter, an entity so complete, so clearly defined, can be the consequence of a common action—how a *speciality* so manifest can result from a phenomenon which has nothing specific in it? To that I have nothing satisfactory to reply; I

am the first to feel it ; but the veil with which all these questions appear to be enveloped, covers many more in pathology, without science occupying itself seriously with them.

It would be so important to know the etiology of cancer, that we readily forgive those occupied with all possible suppositions. Almost all the older, and even now a certain number of practitioners, believe, as I have said, that most tumours, whatever be their first nature, are susceptible of undergoing the cancerous transformation or degeneration ; that a lardaceous induration of any tissue or organ can only be the first degree of a cancer. With them the word *scirrhous*, for example, applies to all hard or elastic tumours. Thus we see them still give the name of *scirrhous* to fibrous tumours of the uterus, for example, and draw no distinction between *scirrhous*, properly so called, and the adenoïd tumours of the breast, or the partial hypertrophies of the organ. With the school of Laennec, to which modern micrographers attach themselves as I do, in this respect, all this is, on the contrary, mere error and falsehood : cancer is distinct from the beginning to the end ; as well when the tumour is not larger than the head of a pin, as when it equals the size of the human head ; at every period, finally, cancers form a species as distinct from other tumours as a cherry is from a pear, for example, and there is no more possibility of the transformation into cancer of a tumour originally different, than of a strawberry into a gooseberry.

Each class of tumours has manifestly its peculiar existence, whether it be homologous or heterologous. A fibrous body is no more susceptible of becoming a cancer than a meliceric cyst of being converted into a lipoma ; it is doubtful whether cancer has ever been seen to substitute itself for steatomas, sebaceous cysts, fatty tumours, exostoses ; and the analysis of facts called in to support the old doctrine, shows that they do not refer to cancer.

An example of pretended cancer succeeding to a

steatome of the cranium, submitted to the Academy in 1844 as an incontestable proof of the transformation, was simply a case of decomposed atheromatous tumour. In the observations of Dupuytren, it is easy to see that, instead of a cancerous degeneration, the tumour had undergone a putrid decomposition, as I have often met with in polypi of the uterus, and twice in 1852, at the Hôpital de la Charité.

It has happened to me to remove, several times, uterine polypi, which distinguished practitioners had called cancer. The mistake depended on this, that the tumour softened, falling into putrilage, gave rise to an infected secretion in the midst of the genital organs.

I have never been able to establish the slightest plausible relation between the cancer and old phlegmasic affections of the breast. Numerous abscesses end by covering the surface of the breast with fistulous openings, and indurated knotted swellings may exist for years; the glandular tissue and the interlobular partitions may become hypertrophied, indurated, irregularly swollen, undergo all sorts of indurations; but nothing will result resembling cancer in any way whatever.

It is especially in secondary cancer, in the case of multiple or disseminated cancer, that it is easy to seize on the *speciality* of the cancerous element. Is it possible, in fact, to dream of a transformation of any pre-existing pathological element in presence of pustular cancers, for example, or of scirrhus plates of the skin? Is it possible that a tumour which has the property of producing everywhere others resembling it, is not a specific disease, absolutely distinct from every other?

Nevertheless, in maintaining these principles in presence of the Academy,* principles I have taught probably since 1820, I spoke with some reservation (pages 362—364): I had certain scruples. Struck with the approaches nature seems frequently to establish between tumours whose nature and kind seemed at first very remote, I

* *Bulletin*, t. ix. p. 362.

asked myself if it was not required to admit that, in some cases at least, real cancer may have been originally a harmless tumour. In respect of the prognostic and therapeutic, this fact is of such importance that it cannot be eluded nor spoken of as a simple conclusion of *non-recevoir* (*fin de non-recevoir*).

A woman has in the breast for twenty years a tumour of the size of a nut, globular, indolent, moveable, without adhesion with the neighbouring tissues, without engaging her attention: is it possible to deny that this is an adenoid or harmless tumour? Having grown to the size of two fists in six months, and then extirpated by Blandin, this tumour was, notwithstanding, found to be formed of the encephaloid tissue. The assistance of the microscope, it is true, was not called in to verify the nature; but the characters were so distinctly marked, that no doubt is possible in regard to it.

I am inclined to believe also, that cancer sometimes commences in a clot, or a parcel of exuded plastic matter, hæmatic or secreted. Cancers of the eye, for example, have often seemed to me referable to some external violence, to blood effused between the membranes, into the substance of the choroid especially: may not some of these cancers result from a transformation of a concretion, hæmatic or otherwise, previously established in the eye?

Tumours are often developed in the substance of the bones, which speedily become the seat of pulsations, and of a noise like that of a forge; nothing more resembles cancers than these kinds of tumours; nevertheless, it is not doubtful that they are formed of coagulated blood, of altered fibrin. I have found them as large as the fist, and even more, in the condyles of the femur, in the substance of the tibia, even in the thickness of the bones of the cranium. I have seen varicose clews or balls transform themselves into a mass of the size of an egg, and the blood enclosed in their vacuities become concrete, harden to such a degree, that when extirpated these tumours presented a homogeneous section, of a

reddish-black colour ; yet it was not at all doubtful that they were formed of altered or transformed blood. I have seen erectile tumours, principally venous erectile tumours, undergo at last a transformation such that they ended by strongly resembling cancer. I removed from the root of the middle finger of a young girl of thirteen a tumour as large as a nut, which followed a blow thirty years before, a tumour which was reproduced in the manner of cancers, evidently composed of hematomata ; this tumour, notwithstanding, maintained the appearance of a mass of concrete blood, very soft and strictly homogeneous.

I have seen, besides, tumours formed of solid blood in the midst of venous vacuities, and worked by the surrounding cutaneous tissue, in all sorts of directions. Having, as a fundamental *trame* or basis a fibro-vascular or fibro-cellular network, they owed their size and existence to the effused hematic matter, infiltrated, solidified, confounded intimately with this network. It has even happened, finally, with tumours clearly hematic, still soft or pulsatile ; the cerebriform matter has been apparently detected by simple inspection, and the microscope showed in them the existence of the cancerous cellule.

If, as I believe, adenoid tumours result often from external violence, frequently start from a little effusion of blood, a little grumous clot of concrete matter, coming either from the vascular system, or from the excretory canals, or from the glandular tissue itself, we should then have a scale easily followed in the evolution of tumours by exudation in general : 1. The tumour simply venous, but concrete ; 2. The venous erectile tissue ; 3. The hematic tumour, reticulated ; 4. The homogeneous hematic tumour ; 5. The adenoid tumour ; 6. The melanotic tumour ; 7. The encephaloid tumour : a scale of which the first term would be found in the varix, whilst the last would end in cancer.

It costs me nothing, however, to admit that such suppositions are far from demonstration. It is, moreover, sufficiently curious to see the anatomico-pathologists

most expert, such as MM. Cruveilhier, Lebert, Broca, lay hold of the doctrine of the independence of cancer—a doctrine which I have maintained throughout my whole life,—and defend it in an absolute manner or sense, at the moment when, on my part, I begin to doubt its exactness; no one, moreover, has invoked more proofs and good reasons in its favour than M. Broca.*

ARTICLE III.—CONTAGION.

The progress of cancer in the organs, the hereditary tendency with good reason attributed to it, have induced some pathologists to ask, if it may not originate by contagion. Some inquiries have been made with a view to determine this question. Dupuytren, Alibert, who were the first to experiment on this subject, remained convinced that cancer is not contagious; Vogel and Valentin are of the same opinion. It appears, however, that Langenbeck, by injecting the cancer-juice into the veins of healthy animals, obtained a positive result.

Here is a more conclusive fact than any preceding it. The cancerous matter taken from a breast on which I had just operated, was injected into the jugular vein of a dog by MM. Follin and Lebert. Every precaution was taken to be certain that the liquid injected was truly of a cancerous nature. On the examination of the animal after death fifteen days afterwards, small tumours of the size of a pea or a haricot, of the head of a pin, all containing cancerous cellules, were found in the walls of the heart.

The antagonists of contagion will object, perhaps, that in all this there is only a simple coincidence, that the dog was infected with cancer before the operation; but besides that such a reasoning would be difficult to maintain, it should not be forgotten that Langenbeck succeeded in the same way.

For a long time, for my part, I considered the contagion of cancer not as demonstrated, but as possible.

* Pages 504, 511.

On three occasions I have seen the cancer of the penis involve the glans, precisely in the part in contact with a portion of the penis which had been affected for a long time. The organ continued healthy all around, and at no part was there continuity between the cancerous surface of the glans and the cancerous surface of the prepuce.

It is in the vagina that this mode of development of cancer is, especially, sufficiently frequent: when, from the posterior lip, cancer of the neck of the uterus reaches step by step the vagina, there is nothing in this but what is natural enough; but it happens also that the vaginal wall becomes the seat of a cancerous spot precisely in the point of contact with the cancer of the *os linca*, in such a way that between this spot and the root of the neck there may exist a considerable extent of tissues remaining altogether sound.

It will be said, I know, that this is not contagion, that it is merely the cancer repeating itself at several points in the same individual, and under the influence of the same cause. But I ask why the general cause of cancer gives rise to it precisely on the points which touch the primitive tumour, rather than elsewhere?

To conclude that cancer is not contagious because attempts to propagate it by inoculation, by injection into the digestive passages, by injection into the torrent of the circulation, have failed, would be to conclude without a motive; for what right has any one to assert that this is the genesiocal mode of cancer? Because cancerous matter, which we may consider *as dead* once it has been detached from the individual, produces no effect, it does not follow that, maintained for a long time in contact with another lining part, it may not reproduce itself. The fact of Bellanger, who, according to Peyrilhe, had a cancer in consequence of having respired the ichor of a cancer; and that of Schmidt, who, according to Lassus,* had a cancer at the extremity of the tongue,

* *Pathologie*, t. i. p. 438.

from having tasted a drop of cancerous matter, are insignificant, undoubtedly, as those of Alibert, of Dupuytren, and Bielt in an opposite sense. Admitting it to be true—that, by connexion with a woman having a cancerous uterus, the male gets no cancer; the same with the lips—admitting that one may touch with impunity all kinds of cancers, with a sound or even an abraded skin, as surgeons, patients, nurses, do daily, this proves that the contagion of cancer is not easy, that it demands conditions as yet unknown, but not that cancer is not contagious. The clinical facts I have observed, confirmed by the experiments of Langenbeck, by the remarkable observation of MM. Follin and Lebert, appear to me of a nature to shake at least the general belief in this respect, and to show that the contagion of cancer is a question meriting new inquiries. In exciting attention to this subject, sufficiently important in all respects, my object only is, moreover, to give rise to caution, in respect of the relations of healthy individuals with the cancerous.

CHAPTER IV.

PROGNOSTIC OF CANCER.

LEFT to the resources of nature, cancer never disappears; those who believe or have said the contrary deceive themselves; their assertions rest on errors in diagnostic, or else that they confound tumours of different natures under the title of cancer. I am astonished that a *savant* so skilled as M. Bennett* still holds this belief. A scirrhus, an encephaloïd, a napiform tumour, a fibro-plastic tumour, the epithelial cancer, the melanic cancer, well characterized, follow fatally their destructive evolution until the death of the patient takes place. Once produced, we never see cancer retrograde; there is no more any room to hope for the spontaneous disappearance of a cancer when it is small—of the size of a pin's head for example—than from the time it equals the size of the fist or of the head.

This is a proposition unhappily too easy to prove: woe to the surgeon, to the physician, to the patient especially, who entertain in such a case so vain a hope, and who substitute their wishes for the mournful truth. Of the two kinds of spontaneous cure of cancer indicated as possible, the first relates to the encephaloïd cancer, the second to scirrhus. Here is the cause of the illusion in both cases. Once ulcerated, certain encephaloïd cancers swell irregularly, spread out under the form of mushrooms, and end by becoming mortified, by falling spontaneously (see page 33). The ulcer left by the fall of these mushroom-like growths may cleanse itself, become regular, even cicatrize in part, and give for an

* *On Cancerous and Cancroïd Growths, &c.*, Edin. 1849.

instant the hope of cure, which, alas ! is not realized, or at least is never of long duration ; as happened to that Russian Princess of whom Boyer speaks,* and who died cancerous at the end of eight months.

This is a specimen of what has been described under the title of the *destruction of cancers by gangrene*. I have myself seen two examples of this, but as gangrene almost always leaves in the spot a portion of the disease, this is not what can be understood by the spontaneous cure of cancer ; it is only, after all, a sort of destruction brought about accidentally by nature, or rather by the tumour itself, the evolution of which is mechanically disturbed.

The spontaneous cure of scirrhus has been admitted in another way. In certain women, the partial hard or ligneous scirrhus, once ulcerated becomes depressed, dries up so completely that it ends by becoming covered with a pellicle which one might take for a cicatrix ; we see frequently the atrophic scirrhus shrivel up, become hollowed out with fissures so profound, draw the integuments so strongly towards it, that all the skin of the neighbourhood is as it were deeply folded. Some pathologists have concluded from this, that there was going on in the cancer at such a time, a process of retraction analogous to that presented by the cicatricial tissues.

As to M. Virchow, his labour has for its object to eliminate, by a deep interstitial or molecular effort, the cancerous matter, to cause the tumour to disappear little by little, and to effect a cure. One must either not have followed out the cases, or have observed very superficially the progress of cancers, to be satisfied with similar suppositions, to fall into such strange illusions.

Scirrhus never cicatrizes but on the surface ; and the finger passed over these pretended cicatrices, discovers always that they rest on a hard or ligneous mass, or a true scirrhus which has gained in breadth or thickness, in place of being reduced or disappearing.

* Tome vii. p. 234, edit. of 1821.

If the tumour has become thinner on one hand, it has extended in another sense, or new ones have formed, whether in the regions or in the organs more or less remote. It is the same with the folds, with the atrophic process which made so great an impression on M. Virchow. The 9th of October, 1852, I saw with Dr. Blatin, a patient affected with a radiated scirrhus, whose right bosom had so much improved during three months, that the family hardly comprehends the gravity of the prognostic given by us from the commencement. It was that the left breast had been attacked in its turn by the cancer, and that the interior of the chest began to be also affected.

Under these radii, in these deep fissures, the density of the scirrhus, its desiccation, have augmented rather than diminished; you may be certain that the tissue of the tumour has not changed its nature, that in one sense or another the scirrhus gains instead of losing. Let not the mind therefore rest in this vain hope of the cure of cancer by the unaided resources of the organism, for death is the natural term of this cruel disease; only, in leading patients to this end, it does not always follow the same route, it does not always take up the same time. Thus the epithelial cancer, very rare in the breast, is compatible in certain cases—in the face, for example—with a long existence; the encephaloïd, on the contrary, which assigns seldom more than from two to four years, often progresses more quickly; it is the same with the melanosis.

The progress of certain scirrhuses of the hard or ligneous, of the atrophic especially, is sometimes very slow. It is it which lasts in some women ten, fifteen, or twenty years, before destroying life; the lardaceous scirrhus, on the contrary, proceeding almost rapidly as the encephaloïd. It is the same with the ligneous scirrhus *en masse*, with the ligneous scirrhus in plates or cuirass.

With the disseminated pustular scirrhus, as with the fibro-plastic cancer and the chondroïd, the patient may live several years. All cancers kill either by infecting

the economy with their destructive principles, or by the progressive seizure of the tissues and of the organs.

The prognostic of the cancer is, moreover, the same at all ages, in both sexes, in every condition of life, individual or general. It is true, however, that young persons die somewhat more quickly than the advanced in years; although certain aged people fall as rapidly before the disease as those of thirty or forty years.

It has not been proved that the critical period in woman exercises a manifest influence over the progress of cancer, that it magnifies the severity or the frequency of the disease. It is from forty to sixty years that cancer most frequently attacks the breast in woman; but it is also at this period that we see the greatest number of cancers in man. Besides, we do not observe more from forty-five to fifty, than from forty to forty-five, than from fifty to fifty-five. In the mean time, the prognostic of cancer is as serious as one can imagine, and the most terrible disease which affects mankind. It is a disease which spares no one; if the therapeutic should remain as helpless as the organism in presence of cancer, there is nothing more to be done than to despair of our fellow-creatures so soon as it is seen.

Once ulcerated, cancers of the breast generalize more and more, and end by threatening life in a way which is far from being the same for all. Sometimes, for example, the tumours multiply infinitely; they appear in the neck, the axillæ, on different points of the chest, on the surface of the belly, in the limbs, and everywhere; sometimes, on the contrary, the scirrhus *en masse* and the plated scirrhus unite so as to envelope the chest, and suffocate the patients. Sometimes the disease seems only to gain one side of the chest, and principally to attack the axilla. Often these enormous hard or lardaceous plates occupy all the axilla, without the patient's suspecting it, although the tumour in the breast be still small. Recently a patient came to consult me from Estampes, who scarcely believed herself to be ailing, because she had in the left breast only an ulcer about the size of a

penny, and who, notwithstanding, had the hollow of the axilla entirely filled with a hard mass of three centimetres (1·091124 inch) in thickness. In such a case the corresponding arm soon becomes painful. The circulation in it becomes difficult; œdema sets in, swelling the arm in some women to double its size, and resembling at last an elephantine limb.

In place of merely attacking the external parts or the envelopes of the skeleton, cancer of the breast often invades the internal organs, without its external appearances becoming much more alarming.

A lady of Versailles, Madame B——, consulted me in 1850 and 1851 for a partial lardaceous ulcerating scirrhus of the left breast, which scarcely gave her any uneasiness. Having ascertained in her case a scirrhus prolongation as far as the summit of the axilla, and a small ganglion above the collar-bone, I dissuaded her from submitting to any operation, recommending only palliative means. Of a delicate constitution and feeble health, she continued in this state for more than a year, with lancinating pains occasionally sufficiently acute, but without these tumours making much progress, without losing her complexion, agility, gaiety, or even security. The arm ended by becoming swollen throughout; a distinct tumefaction established itself between the bosom and the collar-bone. Some weeks later, and without any appearance of new tumours externally, Madame B—— lost her digestive powers, had abdominal pains, rapidly became pale, and lost strength. I went to see her at Versailles; the whole of the epigastrium, a great part of her umbilical region and of the right flank, were occupied by an enormous cancerous mass, which terminated her existence in a few weeks.

In other patients, the cancers, without previously attacking the lymphatic system, or after having involved most of the ganglions of the neighbouring system, disseminate themselves in almost all the organs, yet occasionally troubling the central functions in no very marked way. How often have I met with cancerous

tumours in different regions of the abdomen, in the liver, lungs, muscles, in women whose health had been affected in reality only for a short time. I have also seen some who were so infected with cancers that they had them even in the bones of the chest, and of all the limbs. I saw, in 1850, behind the Hôtel de Ville, a poor woman who had refused three years ago to allow of the removal of a small partial scirrhus of the right breast, and who, nailed to her bed, unable to move in the slightest degree, was covered with cancerous plates or masses from the head to the feet. This unfortunate woman had them everywhere,—in the skin, muscles, lymphatic ganglions, limbs, head, neck, chest, axillæ, thighs, legs; all the abdominal organs seemed larded to each other.

A woman who commences by having only encephaloïd tumours of the breast, may end by being covered (*criblée*) with all forms of cancer at the same time. I saw an English lady, who had at first a large encephaloïd cancer, which was removed and healed, and in whom there appeared later new scirrhoïd fungosities, then hard plates, next an enormous swelling of the arms, then pustules, then plates in the skin of the front of the chest, then clews, or balls, or hard, lardaceous, as if fibro-plastic masses, under the shoulders and in the thickness of the walls of the abdomen.

At this stage of the disease, if the women do not die of hæmorrhage, by excess of suppuration, by continued intense pains, they generally become yellowish or straw-coloured, an indication of cachexia of the cancerous infection; losing the powers of digestion, they become enervated, and more and more etiolated or wan, and at length are reduced to mere skeletons; or, perhaps, they become infiltrated, principally in the lower extremities, with the face puffed up, and die anæmic or exhausted with sufferings of all sorts.

Such is, to sum up, the fate which awaits the unfortunate women attacked with cancer of the breast, whether it be a scirrhus, an encephaloïd, a fibro-plastic tumour, a chondroïd, or an epithelial tumour.

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CHAPTER V.

TREATMENT OF CANCERS OF THE BREAST.

THE well-known serious character of cancer justifies too well the incessant efforts made for ages to discover a remedy.

Insoluble by itself, furnished with a power of destruction such as, if not arrested by art, sooner or later overcome the resistance of the organism, the cancerous tumour of the breast differs in this respect from other diseases. Thus, syphilis, the virulent quality of which is not contested, which produces such ravages where it does not interfere, is not the less of a nature to be exhausted of itself in a certain number of patients before it is attacked. Rabies itself, the terrible character of which is indisputable, may become extinct in the animal in which it is inoculated.

Alone, then, amongst all, cancerous disease has almost invariably a fatal termination, if not opposed by therapy. Cancers of the breast, like cancer in general, have been attacked with all sorts of remedies or medical preparations. Volumes would be required to indicate or simply peruse the review what has been imagined on this subject. I, like most surgeons, I admitted at first the efficacy of some of these means; but after having submitted them to the most rigorous proof in a great number of patients, I acquired the distressing conviction that none of them can cure real cancer. The contrary opinion rests merely on errors in diagnostic.

Some believe they have cured cancers, simply because they have at first mistaken harmless tumours for malignant ones. Confounding with scirrhus or the encysted kind, partial or complete hypertrophy, cysts, ad-

tumours, &c., they imagine that the cancers have disappeared, when they had merely cured harmless tumours or non-cancerous enlargements. Science was so little advanced amongst us in this respect scarcely a few years ago, that it was impossible to avoid such a mistake in practice. Even now, the pathologists who consider cancer as the termination of affections or tumours originally harmless, must continually fall into this mistake.

For this reason, this is a question which must be considered from its base, and nothing in pathology shows better the importance of a correct diagnostic, the indispensable necessity in order to escape from what is vague and uncertain, than the taking account only of facts respecting tumours previously correctly diagnosticated.

ARTICLE I.—GENERAL MEDICATION.

The medications or the remedies for cancer are naturally of two kinds, internal or external. Amongst the first are the abstraction of blood, local or general.

§ I. Oft repeated phlebotomy from the veins of the arm, which at various times had a certain degree of reputation, is no longer recommended by any one, unless it be to fulfil a special indication. The application of leeches is not altogether in the same category. Broussais and his followers, persuaded that inflammation was the source of cancer, as of almost all other diseases, had much confidence in the use of leeches, a practice which Lisfranc followed more than any other person in the treatment of tumours of the breast.

But it is sufficient to cast one's eyes over what has been published in the name of these practitioners, to be convinced that they confounded under the name of cancer pretty nearly all tumours of the mamma, and that they never cured a real cancer by the repeated application of leeches.

We must not, however, reject in too absolute a manner the employment of leeches in the treatment of cancers of the breast. I shall say further on what we

have a right to expect of them. It is useless to think of them in pustular scirrhus, hard or ligneous scirrhus *en masse*, plated or cuirass-formed encephaloïd tumours; the true partial, hard or ligneous scirrhus, or the diffused lardaceous, in like manner are not benefited by them. At the most, the application of leeches may in such cases moderate a little the development of malignant tumours, and in certain cases act as a palliative.

§ II. Purgatives and emetics have never been much employed alone as a remedy for cancer; but they have been used with other means, with bloodletting, with a light diet, with the *cura famis*, recommended by Pouteau. A strict diet or severe regimen, and purgatives, are unequal to the cure of cancers; if such a regimen reduces the bulk of the tumour as of the entire body, the cancer would speedily regain its excess of volume so soon as the food became more abundant. The facts adduced by Pouteau are besides perfectly insignificant, and the method boasted of by this surgeon is no longer followed by any one. It merits in every way the oblivion into which it has fallen.

§ III. The preparations of *hemlock*, made famous by Stoerk a century ago, are still trusted to by some medical men, and few cancerous patients die without having taken for some time the extract or powder of hemlock. I have, for my own part, prescribed hemlock as well as aconite, to some hundreds of cancerous patients, without the slightest benefit. Let the diagnostic be clear and distinct, and you will quickly have proofs of the utter uselessness of the treatment of Stoerk. Besides, it is easy to see by reading what has been written by the partisans of hemlock, that it has never succeeded but in harmless tumours. The seed, the *séminoïdes* of hemlock, described as more efficacious than the rest of the plant or its extract, have had no better success with me. I am therefore disposed to believe that MM. Devay and Guillermond* have fallen into a complete illusion in this

* *Maladies Cancéreuses*, &c., 1853.

respect. *Conicine*, in a dose from one to twenty centigrammes daily (from .154 to 2.080 grains), has entirely failed in my hands against true cancers.

§ IV. Many other substances have also obtained a certain reputation. Various solutions have been recommended in the last age, and even in the present. In Carmichael's hands the carbonate of iron especially worked miracles. A solution of the ammoniacal sulphate of copper, known by the name of the *liqueur fondante et résolutive de Kæchlin*, is said to have cured cancers. Some practitioners worthy of credit having assured me of its good qualities, I thought it might be put to the test. The results have not answered to my wishes; of 150 women to whom I have prescribed it, not one has experienced the slightest benefit; and if I still employ it, it is solely with the view of not abandoning these unhappy persons to their fate without any hope of assistance.

§ V. *Arsenic* itself has had its partisans; Fowler's solution was not likely to be forgotten in such a case. M. Walsh gives, in some measure as a specific, a preparation of the ioduret of arsenic; but it is clear, by what has been published on the subject, that arsenical preparations do not cure tumours really cancerous. The little natural taste I have for the employment of such substances, has, besides, prevented me from prescribing them to any one. Not being able to be useful by their intervention, I should dread injuring by making trial of them.

Nevertheless, the neutralizing property, the *spécificité*, of arsenic in such cases has been so much boasted of, that it were perhaps well to submit it to a rigorous course of experiments. A decigramme (1.543 gr.) of arsenic in a litre (1.7607 pint) of water; a spoonful of this solution every morning at first, two spoonfuls at the end of eight days, after fourteen days three spoonfuls, a purgative every eight days; this is the formula of Lefèvre, and pretty nearly that so strongly recommended by Hill and Pouteau. Six bottles of the solution are sufficient for each patient.*

* Litré, *Dictionnaire de Médecine*, t. vi. p. 315.

§ VI. The well-known action, the incontestable power of *mercury* over the animal economy, quickly, no doubt, suggested its employment in the treatment of cancers. I have tried, for want of better, several hundreds of times, the liquor of Van Swieten, soluble mercury, the pillules of Dupuytren, of Sédillot, the cyanuret of mercury, the proto-ioduret, the deuto-ioduret of the same substance, calomel internally, mercurial ointment in frictions, sulphuret of mercury in fumigations, the sublimate in baths; the result of my experience is a fact, unhappily too manifest—namely, that cancer no more yields to mercury than to the other means indicated above. I have not observed that such remedies aggravate the disease, as M. Roux believes, but it is perfectly true that they do not cause it to retrograde. It is the same with the decoction of Zittemann, which Rust found so efficacious.*

§ VII. The *alkaline substances* at one time also in vogue, well merit the oblivion into which they have already fallen. Nobody at present could seriously recommend as a remedial means for a cancerous tumour the waters of Vichy or the bicarbonate of soda. The chlorhydrate of baryta, which Crawford recommended half a century ago, had but a fleeting reputation. It were useless to mention a series of means still more insignificant than these, the wonders of which are still boasted of by empirics.

§ VIII. What has been said of the preparations of gold against syphilis, gave the idea of making trial of them in cancer. The rebellious character of cancer has afforded me but too many occasions to test the results published by the partisans of the method of Dr. Chrestien. Now, it was soon demonstrated to me that the muriate of gold was absolutely of no value in cancer. What is more, it does not cure syphilis, it merely prevents the disease from extending. The success attributed to it, takes place only in patients previously treated with mercury; and, in fine, it is very far from possessing the activity

* Littré, *Dictionnaire de Médecine*, t. vi. p. 316.

which has been so simply accorded to it. In place of giving it in the dose of some milligrammes (some thousand parts of 15·438 grains troy), I have prescribed it at first in some patients in the dose of 25, 30, 50, and 60 centigrammes (25, 30, 50, 60 hundred parts of 15·438 grains troy), without observing any more evident effects than if they had swallowed pills of a wholly inert substance. Taking advantage of the imagination of the patients, I have given alternately pills of muriate of gold and of crumb of bread, with the same results. I do not wish to conclude therefrom that the chlorhydrate of gold and of soda is an inert substance, but it will be conceded to me at least, that it is without power in the treatment of cancer, of cancers of the mouth, of the tongue especially, as well as of cancers of the mamma.

§ IX. *Quina, sarsaparilla*, the sudorifics, the bitters generally, do not merit being discussed as to their utility. They have nothing, absolutely nothing, specific in their action against this disease, and there is no occasion to refute the therapeutists who in our times have maintained the contrary.

§ X. *The Iodides*.—Cancer is so deplorable a disease, that everything new in the *Materia Medica* is speedily tried against it. The efficacy of iodine or of its preparations against a numerous class of diseases, certainly authorized its employment in cancer. Thus iodine has been used in every form, and in all doses, in an immense number of cancerous cases. Its supposed action against purely hypertrophic or tubercular swellings of the lymphatic glands, against pulmonary tubercles, against certain suppurations of the bones, &c., led to a hope for an instant that cancerous tumours in general, tumours of the breast in particular, would not resist it. As regards myself, I have not tried the tincture of iodine, nor pure iodine internally in cancer; but I have frequently employed the iodidum of potass, of iron, and of starch. I have certainly prescribed the iodidum potassii to several hundred women having cancerous tumours of the breast. The truth is, that I have never seen this

drug modify, in a curative sense, a single scirrhus, encephaloid, chondroid, or fibro-plastic cancer, melanose epithelial, of the mamma or elsewhere. The efficacy of the iodide of starch or of iron has been as entirely negative; and Ullman, who says he has cured so many patients by means of this remedy, must be in error.

§ XI. Another substance, the employment of which became rapidly fashionable, has also broken down when tried against cancer. I allude to cod-liver oil. I was bound, notwithstanding, to try its power, for in such case it is allowable to try everything. I have given it in considerable doses, during whole months, to women of all ages, in cancers of every sort; and cod-liver oil, useful in a number of affections of the bones or of the lymphatic system, has failed in cancers. The preparation which M. Personne or M. Marchal (de Calvi) wished to substitute for cod-liver oil, under the title of iodated oil, has also completely failed when given internally.

To express it in two words, the cancerous nature of the disease being fully established, no remedy, no internal treatment, has been discovered equal to its cure. It is proper to include in this general anathema certain mineral waters, those of Selles especially, which are esteemed by some of the public, and by some medical men.

Besides my own experience, I can bring forward in support of my opinion on this point, the examination of many facts drawn from the practice of others. On every occasion when I was desirous of verifying observations favourable to certain mineral waters, or to a certain treatment, I have been able to satisfy myself that no error had been committed respecting the nature of the tumour, or else that the pretended cure was not real.

ARTICLE II.—EXTERNAL MEANS.

So many pomades, ointments, plasters, poultices, powders, lotions, topical applications of all sorts have been recommended for cancer, that it would be wearisome to enumerate them all, to examine them in detail.

§ I. What can I say of the iodide of potassium, of mercury, lead, soap plasters, hemlock, of Vigo, &c. ; of linseed, bread, carrot poultices, of lily roots, yolk of eggs, and honey ; of all the ointments, plasters, poultices, maturative, resolutive, detersive, but that none of them possess the slightest curative action in cancer ?

As it is not possible to remain wholly inactive near the unhappy persons suffering from cancer, I have been forced, like every one else, to try the powers of these various means ; and, like most other surgeons, have learned but too quickly their total inefficacy against cancer. There is no exception to be made in this respect in favour of any topical applications, still less for the mysterious topics proposed by fanatics or by ignorant gossips. The confidence of honourable men who boast of such remedies depends always on the same cause, namely, the confounding cancer with tumours of a harmless nature. We should thus expose ourselves to painful deceptions were we to place the slightest trust in such external means in the treatment of well-marked cancer : I shall presently say in what way, notwithstanding, they may be practised, and what we may hope to derive from their use.

§ II. After what I have said of *compression* in a number of writings since 1823, one may readily suppose that I have been strongly inclined not to reject *à priori* this mode of treatment of any disease. I have employed it against cancers of the breast with the strongest desire to find it efficacious. The observations published by Young, in 1818, did not cause me to forget what Charles Bell had said of it in 1809, and I remained with the dread that cancer would be found refractory to it as well as to all the rest.

Although the facts of Récamier never appeared to me conclusive, that they are all very incomplete, that it is often impossible to say whether they refer to true cancers or to harmless tumours, although some of the parties were lost sight of before being cured—in a word, although all that this celebrated practitioner relates is

but little calculated to inspire confidence, or to remove the doubts natural to an attentive observer, I set myself about experimenting on compression as a mode of treatment of cancer of the breast. Unhappily, I soon discovered that as regards this matter there was nothing but error and deception. In whatever way applied, whether with superimposed plates of agaric or tinder, with well-adjusted graduated compresses, with stuffed metallic plates, with linen bandages, or with special bandages, even with strips of adhesive plaster, which are not without efficacy in other cases, compression does not cure cancer of the breast. It may flatten or press it into the interstices of the deeper tissues of the intercostal spaces, thus masking the disease; and this, no doubt, has misled some favourably prejudiced, but it leads to no cure. I cannot explain in any way the success ascribed to M. Maisonneuve;* and I ask myself if, despite his well-known talent, this surgeon may not have committed an error of diagnostic in the particular case of which he speaks.

In reflecting on it, one may even conjecture that compression may not even be without danger. Without attending to the difficulty of respiration it occasions, the pain it causes, the excoriations it occasionally gives rise to, what would happen should it ever succeed in dissipating a real cancer of the breast? The molecules of the tumour must then be taken up by the circulation; and hence a general infection instead of a local disease. Does not this idea alone give an *à priori* argument against it? Is it not rather the aim of the practitioner to bring the disease towards the exterior than throw it inwards? I have seen cancerous diseases disappear in some measure under compression, and patient and surgeon boast of the success; but in examining matters more narrowly, it became evident that the tumour, by being flattened, had simply depressed the tissues, and was merely forced between two ribs. Thus it only

* *Leçons Cliniques*, p. 12.

required a few days after the removal of the bandage, to reappear larger and more developed than before. I warn practitioners without hesitation, not to trust to compression in cancers. If it ever succeeds, you may be assured that is only in cases of harmless swellings or of non-cancerous tumours.

ARTICLE III.—METHOD TO FOLLOW.

It may, perhaps, be said, if cancer resists each of these remedies used alone, their associated or combined use may prove more successful. Tanchou, a Parisian physician, maintained this doctrine, attacking cancers of the breast by various medications, general and local, appropriated to each particular case, and changed according to the indications of each day. He maintained that cancers might be cured, or at the least rendered compatible with a long existence. I have seen a sufficient number of women treated by Tanchou, to some of whom I had been called by himself, and others who consulted me privately, so as to be quite certain that the hopes of this practitioner rested on no foundation. Having no clear idea of what at present we understand by cancer, he confounded under this name every kind of tumefaction or of tumour of the breast; and the numerous observations—than which, moreover, there can be nothing more incomplete, which he borrowed from different authors—leave no doubt in this respect.

Must we, therefore, renounce all medical treatment of cancers of the breast? This is not my opinion. Although nothing hitherto has succeeded in overcoming this frightful disease, one is not the less obliged to oppose some remedy to it, at least as palliatives, from the commencement to the end. Besides, all that I have said is applicable only to evident cancer. Now, for the practitioner who is not sure of his diagnostic, and for the periods and the forms of disease still admitting of doubt, there is evidently room not to leave the patients without treatment.

If you have to do with a partial hard scirrhus, or a hard

scirrhus *en masse*; with a pustular or plated scirrhus, disseminated or of the cuirass form; with an encephaloid, epithelial, melanic, chondroid, or fibro-plastic cancer; reckon on nothing: palliatives alone can be employed. But if the diagnostic be uncertain, and the tumour seem to hold a middle place between a scirrhus and hypertrophy of the mamma, between scirrhus and old phlegmasic indurations, between the lardaceous scirrhus, whether partial or *en masse*, and simple lardaceous indurations, then we must act.

Active treatment seems to me the more indicated in such cases, that I have seen the actual cure by treatment of tumours which considerably resembled scirrhus, presuming always that these were not cases of true scirrhus.

Doubtful case of Scirrhus of the Breast in a lady of forty-eight years, cured without operation.

Madame D——, forty-eight, wife of one of my colleagues of the Academy of Sciences, naturally strong and well-formed, short, and somewhat fat, still menstruating, consulted me in 1843, conjointly with M. Michon, who had already seen her several times. The right breast had been diseased for six months or a year. The precise date of the disease could not be determined, because it certainly was not new when Madame D—— perceived it for the first time. At first sight, the breast of this lady presented nothing remarkable; it preserved its natural form and volume, only there was under and a little external to the nipple, a plate, on which the skin was a little depressed. By touch, it was ascertained that the plate of the integuments was continuous with a hard semi-ligneous tumour, of the size of a fowl's egg, ill-defined, and lost in the midst of the tissues. It was not possible to insulate it from the mamma, of which it seemed an indurated or degenerated portion. The centre alone had something of the hardness of scirrhus; from this point it felt softer, more and more towards its circumference, where it lost itself insensibly with the tissues in the form of rays, or radii, or laminæ; also

without a limit or distinct mobility. It was the seat of some shooting pains for two or three months, and had latterly increased more rapidly.

Forewarned by the husband of the terrors which the patient had for every kind of operation, knowing also that Madame D—— would learn with great affliction that the disease was scirrhus, M. Michon and I resolved, were it only to gain time, to attempt dispersion of the tumour by active treatment. Ten leeches were applied every fifteen days above and external to the breast; morning and evening, extensive frictions were made with the pomade of the iodide of lead over the whole diseased surface; it was determined, also, to replace these frictions for a month or two with soap plaster and hemlock plaster. Twice a day from forty to sixty centigrammes (4·160 to 6·24 grains) of the iodide of potassium were taken, and purgatives every eight or ten days. Besides, she took twice a week baths of water and bran, or starched, with the addition of the subcarbonate of soda. The tumour soon ceased to grow; in two months it was evidently less; the central kernel slowly decreased; and suppleness of its radii insensibly augmented. *The honeycombed or figured appearance of the integuments disappeared also by degrees. In brief, in eight months the breast had entirely recovered, and Madame D——, who is still alive (1853), has never experienced any further uneasiness in respect of her breast.

I have been so rarely mistaken, during the last fifteen years, respecting the nature of scirrhus, that it is difficult for me not to believe that Madame D—— really had a scirrhus of the breast. On the other hand, after what I have seen, I found it difficult to admit a radical cure of scirrhus to be possible without an operation; so that I give this observation here more as a token or hint than as an irrefragable proof.

A lady from the neighbourhood of Bordeaux, overloaded with fat, aged fifty-six, consulted me in the month of May, 1851, for a tumour of the left breast. This tumour had the characters of a radiated scirrhus; the

nipple was depressed, and surrounded with a reddish excoriation. Three folds proceeded from it under the form of a fissure outwards and downwards. By touch, might be felt a mass, vaguely circumscribed, of a consistence diminishing insensibly from the central focus to the circumference. This mass was of the size of an egg, unequal, slightly knotted (*bosselée*), and here and there of a woody hardness. Treated as the preceding case, this lady improved daily, and every fifteenth day I could perceive the breast become more and more supple, and the tumour diminish. By little and little the nipple became elevated, the excoriation cicatrized, the mamma became homogeneous, and the patient, on whom I was afraid I should be required to operate, returned to the province, if not completely cured, at least with hopes of a radical cure. I have since seen her, in Oct., 1852, and in June, 1853, with the appearance of a complete cure.

Another lady, large, well-formed, aged forty-nine, and who was precisely in the same state in June, 1851, has so much improved, that at present all that remains of the disease is a small nucleus, lost, as it were, amidst the glandular tissues, and situated a little above the nipple. I could mention some other analogous facts, but I consider it useless to multiply the number, for this reason, that my object is less to prove that one may cure scirrhus, than to induce practitioners not to deny absolutely the fact at the commencement of the disease, and under the forms I have indicated.

ARTICLE IV.—APPRECIATION OF THE MEANS OF TREATMENT.

Here is the treatment in which in such cases I have most confidence. Six or twelve leeches are to be applied, not to the breast, but below or external to it, towards the axilla, every fifteen days, or at least once a month, some days after menstruation. In this situation they seem to me more useful than on the tumour itself, or around it. Cover the diseased region with a

aster, which ought to be renewed twice a week, or
lock plaster, or the plaster of Vigo, changed only
eight days; plasters which are to be varied accord-
the irritation they excite, or simply not to employ
same for too long a time.

Instead of plasters, I often prescribe extensive frictions
ch the pomade of the iodide of lead, or with a mercurial
made, or that made with the iodide of potassium in a
smaller dose.

Mucilaginous baths, alkalinated with the salts of potass
or soda, or even with a certain amount of soap, are to be
employed along with the above prescriptions.

As internal medicines, I give rather the iodide of po-
tassium or cod-liver oil than hemlock. The patients take
thus from thirty to sixty centigrammes (3 to 6 grains)
of the iodide of potassium, or two or three spoonfuls of
the cod-liver oil, twice a day; and I purge them every
eight or ten days with magnesia or castor oil. They are
desired not to use vinegar, salt provisions, or highly-
spiced food. Such is the treatment I have found most
serviceable in tumours of the mamma capable of being
dispersed, and in those cases in which there was room to
dread the existence of a beginning cancer.

I would willingly add compression to these means;
it has succeeded with me frequently in cases of non-
can- cerous enlargements, and in a certain number of cases
of t- tumours evidently of a harmless nature; but I should
fear that in formally recommending this remedy, it might
be applied to tumours really cancerous, in which cases I
believe it to be more dangerous than useful.

This treatment applies not only to doubtful tumours,
but also to all swellings, to all tumours, or chronic affec-
tions, of a harmless nature, not cancerous, to which the
breast is exposed. It is easy, moreover, to comprehend
that the treatment must be modified by a number of in-
dividual circumstances. Thus, some women cannot use
the iodide of potassium, but agree with cod-liver oil, with
the iodide of starch, or iodated oil; whilst others do not.
The treatment, moreover, requiring to be continued for a

long time, it may be useful to employ alternately in the same patient the various means recommended.

Purgatives, as not being suitable for all, must be exhibited cautiously. In those of soft fibres, or with feeble organic action, preparations of bark may be used. The same remark applies to bitters generally. Preparation of iron best suits the irregularly menstruating; those whose blood is impoverished, whether by disease or in consequence of loss of blood.

Mineral waters, whether used at the spas or at home are not to be despised in such cases. I am in the habit of prescribing them: the iodated waters of Chales, for example, to lymphatic women; the waters of Bussang of Châteldon, of Pougues, to patients disposed to chlorosis or to imperfect action of the digestive organs; the waters of Spa or of Forges, if there be anæmia; the waters of Ems, or of Evian, of Contrexeville, when constipation is to be feared, and if the stomach requires to be attended to. All these waters being rather agreeable than otherwise, may be taken during meal times, or with wine, pure, or mixed with water or milk.

General baths must not be neglected. I employ baths of bran and water, starch, or gelatine in the irritable nervous women. In other cases, I add subcarbonate of soda or potass, in the dose of from two hundred to five hundred grammes (between seven to about seventeen ounces) to the bath. The baths of Baréges and aromatic baths seem useful to women of a soft or lymphatic constitution. When we have to do with true cancers, this is still the best medication; but then the experienced practitioner and skilled in diagnosis, employs it only as a palliative; those still labouring under the old impression, use it as a means of cure.

It is important, however, not to confound under this relation all forms, all degrees of cancer. Thus, before ulceration, the encephaloid tumours agree with the treatment I have just pointed out. By its means the progress of the disease may be notably diminished. Amongst the topical applications, there is only the iodide of lead which is suitable; plasters, poultices, would in

most cases be more hurtful than useful. The tumour being scarcely ever painful, it is useless to employ narcotics, externally or internally.

If the encephaloid cancer be ulcerated, topical astringents are often required. In such cases, Saturnine and Goulard lotions, the decoction of the leaves of the walnut, the solution of tannin, and, as a disinfectant or antiputrescent, the solution of the nitrate of lead, the chlorinated solutions, the decoctions of bark, bark in powder, carbon, and alum. At this stage of the disease, leeches are no longer useful; purgatives and preparations of iodine may do harm: we must rather have recourse to preparations of opium, hemlock, belladonna, and hyoscyamus.

Hæmorrhages being possible, it may become useful to destroy the bleeding fungosities with caustics, or to keep the wound covered with lint dipped in astringent hæmostatic lotions, at the same time that alum and the ergot of rye or ergotine are given internally.

Melanosis, chondroid, or fibro-plastic tumours, may be treated like the encephaloid, without forgetting that the treatment is not equal to stem or retard the progress of the disease. Scirrhus seems to agree with this mode of treatment. It is even in this form of cancer that leeches, hemlock given internally, iodides, and resolute plasters, seem to be sometimes useful; in these cases, also, the narcotic preparations may be prescribed.

The scirrhus *en masse*, hard or lardaceous, pustular scirrhus, and that in plates, disseminated, or cuirass-formed, are the most untractable of all. Bleeding seems useless, even hurtful, unless specially indicated. Amongst the topical applications, the iodide of lead, soap plaster, the ointment of Canet, the ointment *de la mere*, are almost the only ones which can be employed; all the others favour rather than prevent the ulceration and the coming on of pains. Internally, hypnotics only can be employed usefully when there is pain, and the only applicable baths are the simple and mucilaginous.

When in the different forms of scirrhus, ulceration has come on, resolute topics or medicaments cease to be seriously indicated; hemlock, aconite, belladonna, henbane, laudanum, the black drops, the extract of opium, salts of morphia, the syrups of Karabé, codeine, the white poppy, or diacodium, suit best, given either by the mouth or in lavement. As topics, the ointments of Canet and *de la mere* may still be used. Cakes of linseed spread with cerate, simple, opiated, or of lead, the pomade of iodide of lead, frequently give relief. Poultices of linseed in marsh mallow water, of white poppy of nightshade, or in red wine, are sometimes useful in their turn. There also are indicated poultices of the pulp of the carrot or potato, poultices of fecule; all opiated preparations, as well as the creosote employed by Græfe; astringent lotions, cleansing or antiseptic, of which I have spoken when treating of the ulcerated encephaloïd cancer; as well as the leaves of the cabbage or beet, fatty plants in general, boasted of formerly and still recommended by some empirics: I may say as much of layers of lard, of some other fatty bodies employed by the ancients, who hoped in this way to satisfy the voracity of the cancer.

Such is, in fact, the account-book of the resources we have against true cancerous tumours. Let there be added to these the various means borrowed from general therapeutics, and which apply to the epiphenomena, to all the intercurrent affections, and we have the *exposé* pretty nearly complete of medical luck in the face of this redoubtable affection!

If the curative insufficiency of so many different medications be not but too well proved, perhaps it may not be the same with operative medicine, with surgery properly so called.

ARTICLE V.—SURGICAL MEANS.

To destroy a cancerous tumour by surgical means is in general an easy matter, and but little dangerous in

itself; but is there a chance by this means of radically curing the patients? Here is a problem still unsolved, though discussed since the time of Hippocrates. Cancers must not be extirpated, said the Father of Medicine; and this opinion, which seems also to have been that of Celsus, and later that of Mercatus and Trioën, is maintained with energy by Houpeville;* but no one has defended this opinion with so many powerful reasons as Monro of Edinburgh, during the last century. Opposed on the other hand by almost all the surgeons of former times, by Vacher, by the Royal Academy of Surgery, by Sabatier and Deschamps, it was rejected in a manner nearly general.

The differences of opinion on this subject are, after all, easy to comprehend. The want of a correct diagnosis between harmless and malignant tumours led, according to circumstances, to the maintaining one or other of these doctrines. As there are forms of cancer which always return, it was enough for the practitioner to meet successively with a certain number of this kind, to adopt the opinion of Hippocrates; whilst another surgeon, more fortunate, meeting with a series of adenoid tumours, I suppose, remained of the opinion that cancers ought to be extirpated.

Now, that it is possible to distinguish the harmless from the malignant tumour, the question naturally alters. With the characters I have given, one may actually withdraw from the category of cancers a number of tumours which may always be successfully removed.

§ I. *Indications and Counter-Indications.*

Until further progress permits us still to contract the circle, it remains to consider if cancer itself can be radically cured by operation. Those who maintain that it cannot, base their opinion on three kinds of reasons,—first, on observation; secondly, on theory; and lastly, on the microscopic nature of the evil.

* *The Cure of Cancer, &c.*, 1696. (*La guérison, &c.*)

A. Proofs drawn from Observation and from Theory.

Observation is especially invoked by physicians who have found in M. Cruveilhier a keen defender. According to them, the disease always returns after having been removed, and the operation serves but to accelerate the fatal termination. This is pretty nearly the opinion of Boyer,* who, in 100 operated on, reckoned only 4 in whom the cure had been maintained. Scarpa, who saw only 3 of complete success; Mayo, who signalized 95 cases of relapse in 100; and Mr. Macfarlane, who, in 118 operated on, did not find a single radical cure, have gone in this respect as far as possible.

This opinion cannot be the result of rigorous observation; a simple reflection suffices to lessen its value, to explain otherwise its origin and extension. Patients operated on, consult surgeons first and physicians afterwards. Those who have been operated on and cured, have no occasion to speak to physicians. Those, on the contrary, in whom the disease returns, end by calling in the aid of all the world. Seeing scarcely any but these, physicians are naturally struck with it, and readily decide against the operation. I ask pardon of my colleagues whom this objections concerns, but if they will reflect an instant, they will see that they are not in a position to resolve this question. They will admit, I trust, that surgeons, called on to examine these tumours in all possible conditions, alone possess the necessary elements to solve this problem; and that, all things being equal,—namely, intelligence, experience, talent, and good faith,—they must know better than physicians whether an operation can or cannot cure cancer.

Besides, invoking also their experience, Hill, Flagani, are of a quite contrary opinion; moreover, in a clinical point of view, at the epoch of Monro and Scarpa, the condition of pathological anatomy does not permit us to attach much importance to their opinions.

* Tome vii. p. 337.

The *theoretic reason* called to their aid by the antagonists of the operation, is of quite another value. As belonging to general pathology, this reason springs from medicine as well as from surgery. We must, therefore, first discuss it, for it is impossible to make a step without having decided on one side or the other.

If, in place of being a local disease, cancer is the result of a general affection, the extirpation of cancerous tumours must be of no avail, rejected even as dangerous.

It cannot be denied that a crowd of facts and of considerations unite in favour of the opinion that cancer is a general disease; its origin without an appreciable cause, without any external violence discoverable in numerous cases; its dissemination on several points at once, and at the very first onset in certain patients; its development, internally and externally at the same time; its existence in the centre of the parenchyma of important viscera, without any other disease; the fatality of its evolution; the impossibility of effecting its resolution, once established; its return across the organs; its dissemination throughout the whole economy when it is of long standing, or when its first manifestations have been destroyed surgically,—can scarcely be comprehended otherwise. The memoir of M. Broca, and the work of M. Lebert, give, on this subject, a crowd of reasons difficult to refute.

Nevertheless, how can we admit that a woman who enjoys absolute good health in all respects, who is in fact the picture of health, can be infected with cancer, because she has in her breast a small scirrhus or encephaloid? How can we suppose the general health to remain thus excellent, when the blood has in its elements so deadly an affection? And how can it be that this small tumour of so redoubtable a nature has come from the blood, if this blood be so pure as to have excited no trouble elsewhere in the economy? And next, why is it that, for so long a time, often for years, there is but this single tumour dependent on a primitive infection? Is it that the tuberculization in the phthisical, is it that the

affection called scrofulous in the lymphatics, depend on a general condition of the person, limit themselves to the formation of a single tubercle in the lungs or elsewhere, to the enlargement, to the alteration of a single ganglion during whole years?

Besides, the absence of external causes is far from being proved. In the first place it is incontestable that cancers are more often observed externally than internally; and externally they are most frequently met with in organs exposed to the action of objects from without, as the testes, mammae, lips, eye, and orbit. Even internally they are in the mouth, pharynx, gullet, orifices of the stomach, anus, rectum, neck of the bladder, neck of the uterus, that they show themselves of preference; everywhere, in fine, where external objects pass or stop more readily, where the matters, whether alimentary or of another nature, may cause irritation, chemical or mechanical.

In the third place, how can we be certain that a tumour of the breast of long standing is wholly unconnected with external violence? Is there in the economy an organ more exposed to be injured than the breast? Is it really possible that any woman can be certain that her mammae have never been injured by her corsets, toilette, or in any other way? And on the other hand, who is ignorant of all the varied functions of the breast? That, independent of gestation and childbearing, the mammae become congested at each menstrual period? Why may not these fleeting disturbances be sometimes followed by exudation serving as the starting point of a tumour? Who will venture to deny that a little blood, plasma, lymph, milk, escaping from the natural passages, may be poured out, under the form of infiltration or collections in the mamma in certain women, at certain epochs and in certain conditions?

I am aware that the cause blamed in such cases in women may be merely a coincidence, and that at the moment of the blow the tumour may already be of an ancient date; that in this respect the patients may be deceived, and in fact are frequently deceived; but it we

imprudent to affirm that they are always in the wrong. On the other hand, who has not been hurt, contused, bruised a hundred times, without having any recollection of the accident after a few months, or it may be weeks? May it not happen that an induration caused by such injuries, not perceived at first, be only recognised after its cause and date have been completely forgotten? Is it to be believed, that a woman who has hurt her bosom in dressing or whilst at work, can always recollect it at the end of six months if the pain has neither been of long duration nor violent? It may therefore happen, that a tumour thus originating may exist for a long time without the patient being aware of it, and that when all of a sudden she observes it, I shall suppose at the end of a year, it is impossible for her to say how it has come. It follows, at least, from these remarks, that if one be not entitled to maintain that cancers of the breast depend generally on some external cause, or a local exudation into the mammary tissue, we are not entitled absolutely to deny it.

The difficulty which exists here, prevails also in the etiology of a number of other chronic diseases. Who has not remarked, for example, the swelling of the lymphatic glands of the axilla, under the jaw, in the groin, caused by the slightest lesion of the fingers or toes, of the mouth, head, or sexual organs? All practitioners know that a carious tooth, a pain in the gum, the slightest scratch, the bite of a leech, a blister, the least alteration of the skin, react often on the ganglionic system. He has not observed, who does not know that the swollen ganglion preoccupies the attention of the patient on such occasions, much more than the slight affection which occasioned it, a cause often forgotten at the end of some days, and which many so injured, having paid no attention to it, are disposed to deny.

This etiology of ganglionic tumours, to which I have called attention for the last twenty years,* being beyond

* *Archives Générales de Médecine*, 1836.

all dispute, I do not see why it may not be also admitted in respect of cancers.

Every affection originating in an internal disease, and which may at length bring on a local manifestation indicates its existence in two ways: first, either the general state is altered before the disease establishes itself at one point more than another, as happens in the cachexia in scurvy especially; second, or the disease announces itself by a perturbation, of which the local manifestation is in some measure but the crisis.

Nothing similar, evidently, can be said of cancer; with it, on the contrary, it is at first an external tumour which serves as a focus of the disease, and it is from this moment only that the rest of the economy begins to be infected; it has afterwards all the air of a disease, of a local ailment tending to generalize itself, and not of a general evil tending to become localized.

There are so many suppositions to make, one can conceive so many circumstances susceptible of giving origin to cancer; the beginning, the progress, all the phases of this disease may be explained so readily by the admission of an external cause, of a principle coming from without, that there in reality is no occasion to persist in making of it a general affection, primitively to attach it, M. Baumé* is still anxious to do, to a pre-existing cancerous diathesis.

There takes place under the influence of any external action, or by the fact of a molecular action, a slight infiltration, a hematic exudation, albuminous, plastic, secreted, or of any other sort, into the meshes or interstices of any tissue; whether this matter, escaped from its natural route, forms an evident mass, or is reduced to some parcels, it matters not: it becomes a foreign body, and that is sufficient to constitute the germ of a disease; imbibing the organ, it will not continue in an inactive state; if life had quitted it, it returns anew; new molecules associate themselves with the first, and, behold,

* *Des Diathèses, &c.*, 1852, p. 375.

tumour, having a proper existence ! This tumour grows, becomes developed at the expense of the surrounding organization, which penetrates and which produced it ; a thousand changes may take place in its form, size, even in its composition ; and all this may happen without its necessarily losing the qualities of a local disease. Let us suppose that it has undergone such transformations, that heteromorphous elements of a malignant nature be now superadded to its primitive molecules : these molecules, whose rest is scarcely possible in the centre of the economy, must be strongly disposed to quit their primitive locality, to spread in the neighbourhood, to reach the various currents proceeding from their focus, to involve the lymphatic ganglions, finally, to spread throughout the whole organism, whether step by step or by infection.

Some *savants*, M. Cruveilhier amongst others, deny that *effused blood* can ever *transform* itself so as to form organized tumours. No one esteems more than I do the works of M. Cruveilhier, but I have seen so many various tumours, evidently formed of effused blood, that I find it impossible to agree with him on this point. I have seen polypi of the uterus form in some measure under my eyes, and in which the blood-clot was still perfectly recognisable on one hand, whilst its other half was already vascularized. I have seen fibrinous concretions adhering to the *os tincæ*, hanging under the form of a little tongue, become covered gradually with a fine pellicle, next acquire bloodvessels, and finally become a true polypus. I have seen similar things happen in the heart, on the mitral or tricuspid valves. I have seen in the upper jaw of a young girl, a blood-clot whose transformation into an organized tumour was so manifest, that the most skilled micrographers found in it the cancerous cellule.

In 1852, I had already seen six times, in the thickness of the condyles of the femur and of the tibia, large tumours, necessitating the amputation of the limbs, and which, formed by enormous hematic clots, came on after external violence. These tumours, which M.

Broca* places with the cancers which he calls *fungus hæmatodes*, and in which M. Lebert and he found abundance of cancerous cellules, have not, however, returned in the patients whom I freed of them by amputation. In a young person, Miss P. A——, who had in the external condyle of the tibia a pulsating tumour which had been considered an aneurism, and which necessitated amputation of the thigh in 1838, I found an osseous shell case, filled with a mass as large as the fist, and which had all the appearance of an enormous clot of blood, partly transformed into medullary or cerebriiform matter.

A lady of Andelys, Madame C——, also had a pulsating tumour in one of the condyles of the femur. The ligature of the femoral artery, which seemed for an instant to repress the pulsations of the tumour and cause its subsidence, failed to cure her. Two years afterwards, in 1842, amputation of the thigh was required. As in the patient mentioned above, the osseous cavity the seat of the disease, contained a large mass like the fist, having all the characters of an old clot, with an encephaloid appearance. What were these tumours, not cancerous? and how can it be denied that they were almost wholly formed of blood? In another lady, Miss P——, whose thigh I amputated in 1852, for a disease absolutely similar, the tumour was so distinct from cancerous, that M. Lebert found in it the cellules and the other elements of cancer. It cannot be denied that there is here a question still very obscure in pathologic anatomy, in the general etiology of tumours, to study and to be solved.

I have also seen *erectile tumours* become concreted, decompose, and take on the form of cancer; their tissue (*trame*) imbibed with blood; the exuded matter and the primitive elements were perfectly confounded. I have seen tumours, of a melanic and fungous appearance, commence by varicose balls or clews, and in which the blood, concrete and indurated, was so intimately mixed

* *Oper. cit.*, p. 478.

with the venous tissue, that the whole formed only a homogeneous globe, presenting a section sufficiently resembling that of a truffle. If this were the place, I could state a number of facts of all kinds, observed since my first publication, on the transformation of the blood, but I have said enough, I believe, to show that a clot of blood, a fragment of fibrine, a bit or lump of any other matter, once effused into the tissues, may harden and form the nucleus, the beginning, the source of different kinds of tumour, of some cancerous tumours especially.

I thus come back to the question, whether cancer be always of a malignant nature from the beginning; or, if it does not, at least sometimes, succeed to tumours originally harmless. As regards operations, these various questions are so important, that I may be pardoned returning to them several times. The conscience of the surgeon as well as his skill, are deeply concerned in it, and humanity forbids us neglecting their solution. If cancer be at first a local instead of a general disease, if harmless tumours may become cancerous, the peremptory indication is to remove all these tumours as speedily as possible; it would be a kind of crime to treat them otherwise, to leave them time to become generalized, or to assume the characters of malignity.

I have said above, that without having the absolute conviction of the possibility of cancerous transformations, I was far, however, from being so decided as formerly in the negative sense on this question; the facts multiplying in my practice, have ended in shaking my confidence on the subject.

M. Lebert, as also M. Broca,* does not believe that a non-cancerous tumour can ever become a cancer. For him, the cancer is at first what it will always be, a species, a distinct entity: it can spring only from itself, and what is foreign to it at first, can never produce it.

It was thus I formerly reasoned and believed; but as I become older I meet with facts which do not seem to

* *Op. cit.*, pp. 504—511.

yield to such doctrines. I have seen tumours of the breast become cancerous after having for a long period had all the characters of harmless tumours, so that it is difficult for me not to see in this, two different phases of the same disease. The observation drawn from my practice by M. A. Richard (see page 104), is one of the most singular in this respect. In fact, almost throughout, the tumour was clearly cancerous, even under the microscope although a portion still preserved all the characters of an adenoid tumour.

M. Richard concludes, it is true, that in this patient a harmless and a cancerous tumour coincided. But the two tumours only made one, nothing separated them, they had never been distinct. I have never seen in the mamma an adenoid tumour and a cancer at the same time, and their coincidence seems incompatible if they do not follow each other. In the case cited by M. Richard, the tissue of the tumour was continuous; the harmless portion was only a region of the whole mass; nothing separated it from the part truly cancerous.

I have seen other similar cases. A woman I operated on in February, 1852, offered me a similar example; her tumour, of the size of the fist, was formed of encephaloid clews or balls, disseminated, and separated here and there by considerable masses of hypertrophied mammary tissue; the cancerous element was infiltrated or effused into the sound tissue, into the natural organ, which of itself did not form a real tumour.

B. *Data furnished by the Microscope.*

Prior to the employment of the microscope in the diagnosis of tumours, the intimate nature of tumour had been so little studied, that, as regarded an operation it was scarcely thought of. Some attempts of Scarpa made in this direction, are now of no value. Science, in haste to admit, has in this point of view undergone im-

* *Revue Médico-Chirurgicale*, 1852.

† *Archives Générales de Médecine*, t. x. p. 283.

portant changes. Always maintaining that it would be dangerous to take a side in operative surgery on the simple evidence of the microscope, I am not the less of opinion that the new ideas arising from the use of this instrument ought to be taken into account.

Does the presence of the cancerous cellule in a tumour authorize us to say that this tumour will necessarily grow again after its removal? Does it absolutely indicate a general or constitutional disease?

Daily in the presence of women affected with cancers, I have often thought of, unceasingly meditated on, this question. Now, I believe I have already proved that the cellule called cancerous indicates neither the absolute incurability nor certain benignity of tumours. We have seen by many observations, and especially by that of M. Richard, how this cellule may escape the observer, although it in reality exists in the explored tumour. To be absolutely certain of its absence, all the molecules of the tumour would require to be successively placed under the microscope. "An isolated cellule being given," says M. Lebert,* "can we always discover by the microscope if it belong to a cancer or not?" We do not hesitate to reply, no. But if we said to him, "A morbid tissue being given, can we discover by means of the microscope if it be cancerous or not?" He boldly answers by the affirmative.

It results from this, that the most attentive microscopic examination permits at the most to name as malignant the tumours in which he shows the cancerous cellule, without the absence of this cellule authorising the assertion that the disease is not cancerous. The microscope would thus lead the surgeon into a false security, and promise a radical cure when a relapse is but too probable: and even when the presence of the cancerous cellule has been ascertained, it by no means follows that a cure is impossible. Numerous observations have for a long time amply instructed me on this subject.

* *Maladies Cancéreuses (On Cancerous Diseases)*, p. 16.

The young woman (page 493, v. ii.) who had an adenoid tumour of the breast, and in which the cancerous cellule was found, has remained well since 1844. Miss D—, on whom I operated in 1843, then in 1845—removing an enormous encephaloid filled with cancerous cellules—has also remained quite well, and continues so at this moment (1853), despite her advanced age, gibbosity, wretched constitution, and size of the tumours. There has been no relapse in a young woman who had a hematic sanguineous tumour of the upper jaw, infiltrated with cancerous cellules. It would be puerile to fear a relapse in the patient from whom I removed a part of the heel, and in whom the fungosities included, notwithstanding, numerous cancerous cellules, according to the best micrographers. The tumour of Madame D—, operated on in 1847, contained an enormous proportion of cancerous cellules, which did not prevent the patient recovering, and remaining to the present day in excellent health. Madame de L—, Madame de J—, whose cases I give below, had also the breast and the axilla filled with the most distinct encephaloid masses, and their tumours contained the cancerous cellule in large quantities. These ladies, however, recovered rapidly, and have continued quite well ever since.

OBSERVATION I.—*Lardaceous Encephaloid, partly softened, extirpated, and cured radically.*

Madame D—, fifty-five, fat, of habitual good health, had a tumour in the right breast, for which she consulted me in 1847. This tumour originated of itself. It was about the size of the fist, somewhat prominent, and softened towards the centre, that is to say, external to the right breast. The patient perceived it about two years ago; it was at that time indolent, and of the size of a nut. Gathering gradually, especially during the last six months, it has involved the external half of the breast. A prolongation having the same appearance existed below the great pectoral, without extending quite to the summit of the axilla.

After nine days of preparation I operated, taking care to extend the incision as far as the axilla, so as to remove by the incision the whole of the tumour of the breast, together with its roots. The results of the operation presented nothing remarkable. The wound, which did not heal by the first intention, cicatrized slowly, but completely; and Madame D—— was able to leave her town house in June, 1847, two months and a half after the operation. She returns to see me once a year, and hitherto the cure has been radical.

The tumour was formed of a homogeneous tissue, lardaceous, without partitions or distinct bridges, not lobulated. Its consistence diminished from the circumference to the base, where some lamellæ of fibro-cellular tissue were found, as far as the centre. Here we found a focus, filled with a pulpy grey matter, like *bouillie*, grumous, semi-purulent, mixed with a serous, reddish liquid. The section of the solid parts of this tumour gave out under pressure the characteristic cancer-juice, the lactescent or creamy matter of scirrhus or of the encephaloid; and M. Houzel, who examined it for himself at the Pathological Museum, found, as I did, all the characters of the most clearly-marked cancer.

OBSERVATION II.—*Ulcerated Encephaloid Tumour. Seventy years of age. Extirpation. The Cancerous Cellule shown to be present by the Microscope. Cure, without relapse.*

Madame the Countess of L——, large, brunette, having had several children, consulted me in October, 1850, for a tumour she had in the left breast for several years. This tumour was still moveable over the greater pectoral muscle; it was extensively ulcerated, occupied a large portion of the breast, had a hard and as if lardaceous base. The ulcer which had attacked it showed deep anfractuosities, and was surrounded with knotty swellings (*bosselures*), reddish, confounded with the skin, softened in some parts, concrete and still hard in others. The ulcer was six centimetres (2·362248 inches) broad,

and the subcutaneous base of the tumour twelve to fifteen centimetres (4·724496 to 5·905620 inches) in its principal dimensions. A ganglionic ball, of the size of a large nut, might be felt under the edge of the great pectoral, inasmuch, at least, as the *embonpoint* of the patient permitted it to be made out. It would be difficult to find in any case a reunion of more unfavourable circumstances. A want of hope in the patient, delicate bowels, difficult digestion, adipose tissue very abundant, the axilla implicated, an encephaloid cancer, perfectly characteristic, and far advanced. Nevertheless, as there seemed to be no cachexia as yet, that, besides, no other remedy could be proposed, the operation was performed, with the concurrence of M. A. Cazenave, the physician of Madame de L——, and the assistance of Dr. Chenu, who, with two of my dressers, engaged to attend to the dressings. As regards the mamma, I found nothing which had not been anticipated; but the sub-pectoral tumour was as large as an egg; and there was another quite as large in the hollow of the axilla. As these last were enveloped in a thick layer of soft fat, I removed them more by enucleation than by the bistoury. We had now before us a vast cavern, in which the head might have been placed. Nothing of moment occurred during the first fifteen days; the wound contracted and filled up regularly; but at the end of the third week an erysipelas appeared above and below the wound, and at some distance from its edges. Covered morning and evening with mercurial ointment, the erysipelas led to no bad results, and disappeared in five days. At the end of two months the cicatrization was complete. I have since seen Madame de L—— several times; she has become fresh-coloured, robust, and lively. The cicatrix is white, and regular; there does not exist anywhere the slightest appearance of a return of the disease. The tumours, examined with the scalpel and the microscope, were found to be composed of a tissue so clear and encephaloid, that no one could possibly have the slightest doubt on the subject. Fungous, reddish, vascular, filled

with the cancer-juice, lobulated, easily broken down under the fingers, as well in the clews I removed from the axilla as in the layers serving as the basis or in the neighbourhood of the ulcer; they were lardaceous, and confounded besides with the mammary tissue, which was found, with all its normal characters, insensibly around the principal mass. In order, however, not to neglect any means of proof, I submitted several layers of the pathological specimen to the microscope. M. Follin and M. Lebert both found in it the cancerous cellule in an enormous proportion.

OBSERVATION III.—*Vast Encephaloid, mushroom-like Fungus, giving rise daily to a frightful quantity of sanious liquid, in a Lady aged fifty-eight. Extirpation; microscopic examination. Cure; no relapse.*

Madame de J——, of a resigned character, although excitable to excess, consulted me, in the beginning of 1850, for a tumour which had become developed external to the left breast, towards the axilla, already for some months. I advised an operation, which the patient would not listen to, and I heard no more of it. Having consulted, on the other hand, M. Paul Guersant, who gave her the same advice, Madame de J—— sought the treatment of various non-professional persons. Not finding the tumour diminish, she consulted M. Cruveilhier, who placed her under a variety of treatment usual in such cases. The tumour increases rapidly in size; the teguments are being destroyed by degrees; a mushroom-formed excrescence, of a reddish-grey, fungous, bleeding speedily, seizes on the whole of the axillary region; the patient daily loses strength; successive hæmorrhages occasion extreme weakness; and when I was again asked to see her, I found her in the following state:—The pulse small, ninety-six; the skin everywhere as if united to the bones. The digestion, now become very painful, admits only of some light food. The tumour, still moveable, did not seem to send out any root, either under the great pectoral or towards the summit of the axilla; but it formed ex-

ternally a mushroom-like excrescence, of the size of both fists, discharging from its surface a nauseous sanious serosity, in such abundance that from ten to fifteen towels were completely impregnated with it daily. The patient, as well as M. Cruveilhier, who still carefully attended her, assured me that the quantity exceeded a litre (1.76 pints) every twenty-four hours for the last fifteen days.

The patient, her family, and M. Cruveilhier, earnestly demanded an operation, provided there still remained the slightest hope from such a step. It seemed difficult for me, under circumstances so unfavourable, to hope for ultimate success. Despite these remarks, the operation seemed a necessity, the hæmorrhages and the abundant discharge rendering it improbable that she could much longer survive under such losses, and next day was decided on for the operation. To add to the distress, when we arrived, a commencement of erysipelas had established itself on the chest, at the point where the skin was kept perpetually moist with the discharge from the axilla. We neglected this, however; and the cancer was removed without etherization, on account of the extreme weakness of Madame de J—, who, notwithstanding, supported the operation with great courage, and without fainting. During the first twenty-four hours she was between life and death. On the second day, notwithstanding the extension of the erysipelas, she recovered some strength. We gave her some food, and the colour reappeared in her face, her strength returned by degrees, and Madame de J—, despite the extension of the erysipelas, which ran over different regions of the chest, abdomen, limbs, and continued for nearly twenty days. In fine, the wound became clean and regular, and finally closed at the end of the eleventh week. Since then, Madame de J—, who has become fresh and strong, can no longer be recognised. The cicatrix interferes somewhat with the movement of the right arm, but she thinks no more of her old tumour, and nothing induces us to dread a return of the disease.

The anatomical specimen, examined with the scalpel and the eye, seemed formed of the best characterized cerebri-form tissue; one might as well have said of cerebral pulp. It was composed of reddish-grey balls or clews, confounded with each other, reduced to a *bouillie* in some points, fungous, easily broken down with the fingers, and containing a vascular base in others. MM. Follin and Lebert, on their part, showed, by the aid of the microscope, that they were formed of encephaloïd matter.

M. Cruveilhier and I were so fully persuaded of a speedy return of the disease, that we took it upon us to remove it only with the hopes of prolonging life for a few days, to relieve, for some moments at least, the patient of a disease we considered incurable; it was a necessity, an operation *in extremis*, as would be, I presume, an operation for strangulated hernia in a phthisical patient reduced to the last degree, the amputation of a crushed limb in a cancerous patient otherwise incurable.

In support of my opinion, here is a proof which will not be refused; it was given me by M. Follin, one of the micrographers the most esteemed, and one of the rising hopes of the new surgery.

OBSERVATION IV.—*Scirrhus of the Breast extirpated :
no return of the disease.*

Madame P——, thirty years of age, of sufficiently good health hitherto, had for a year and a half, when I saw her in May, 1848, a tumour, of the size of a fowl's egg, in the left breast.

She was born of parents who never had any tumours in any part of the body. Her father died at an advanced age of a pulmonary affection; her mother, although very old, is still in good health. Married for some years, she had, two years ago, a child she did not suckle: her delivery was quite regular, and she never had any swelling or inflammation of the breast.

The tumour appeared without any known cause. The patient indeed recollects receiving a blow on the breast on turning around her bed, but what she says on this

point is not sufficiently precise to furnish any data for the etiology of her case. The tumour, at first very small, increased by slow degrees, and is now of the size of an egg: it occupies the lower and external part of the left breast, and has a surface irregularly lobulated. Its hard consistence and its ill-defined limits do not admit its being distinctly isolated from the rest of the breast. It does not roll under the skin, like certain adenoid tumours, and it is the seat of shooting pains sufficiently acute to interfere often enough with the repose of the patient.

I removed this tumour on the 4th of July, 1848. It had enlarged somewhat, and the pains were as acute as before.

Dr. Marchal, and M. Porchat, one of my colleagues in the hospital, assisted me in the operation.

The operation presented nothing remarkable, and the cicatrization was complete in a month.

Examination of the Tumour.—The tumour, cut across, presented very soft greyish-white tissue, altogether resembling the *cortical cerebral substance*. This tissue is easily depressed with the finger and scraped with the scalpel; the surface of the tumour is lobulated, and everywhere surrounded with a fibrous envelope sufficiently dense. The general characters of this tissue resemble certain varieties of the encephaloid. With the microscope I have in vain searched for glandular lobules. The whole tissue was formed of large cellules, with one or two nuclei enclosing nucleoli very distinct. M. Robin, who on this occasion kindly gave me his aid, recognised, as I did, the cancerous cellule. The patient, again seen in 1853, had experienced no return of the disease.

"If, in respect of this fact," says M. Follin, "I were called on to formule my opinion on the relapses of homœomorphic and heteromorphic tissues, I would say that cancer, the fibro-plastic tissue, the canceroid tumours (epithelial), relapse in the spot and in the economy. Possessed at first with exclusive ideas on the non-relapse or return of fibro-plastic and epithelial tumours, I must yield to the evidence of facts which have presented them-

selves to me, especially during the past year, at the Hôtel Dieu, where I saw a relapse of the disease in the lung, of a fibro-plastic tumour of the thigh; where I have seen several other returns of fibro-plastic tumours. To sum up, the microscope enables us to distinguish better the anatomical element of tumours which are developed in the economy; but a prudent reserve is to be maintained until the question of relapse is to be solved or cut short."

I ask no more, and this I have accorded to the microscope every day of my *clinique* during the last ten years.

I speak here, for the moment, only of observations where the evidence of the microscope has been called in, of tumours where the existence of the cancerous cellule has been demonstrated either by M. Lebert, M. Follin, or M. Robin, or by all three simultaneously; no, the presence of the cancerous cellule does not authorize us to declare a tumour to be absolutely incurable, that it will return necessarily after the operation.

Moreover, it is not indispensable that the microscope be called in to decide whether a tumour just removed be cancerous or not. Place on one hand the harmless, and on the other the malignant, I do not hesitate affirming, that with the clinical ideas I have so long endeavoured to popularize, an experienced practitioner will distinguish without difficulty the cancerous from the non-cancerous. On this point I appeal to micrographers themselves, and especially to MM. Lebert and Follin, who observed my practice for several years; have they not seen me, a hundred times at the hospital, declare the nature of such tumours, decide on what was cancerous and what not, before and after the operation; and in this respect has their microscope ever done more than confirm the diagnostic I had previously given? When I have positively affirmed the fact, have they ever found me wrong? A doubt in the diagnostic is only possible at the commencement of the disease; later, doubtful cases are rare. If the skilled clinical observer hesitates then, the information furnished by the microscope is not in itself

of a kind to reassure him, nor to alarm, in regard to the operation.

The question, then, of operating or not, cannot as yet be decided by the microscope. What may be conceded to it as yet, is, that the presence of cancerous cellules, so called, in a tumour presenting in other respects the characters of cancer, is calculated to augment the fears of a relapse after the operation, as their absence would increase the confidence, if the tumour resembled in other respects the harmless tumours.

C. *Clinical facts*.—The antagonists of the operation invoke also clinical facts, direct observation. To listen to them, the operation has never succeeded in any woman, and often even abridges life instead of prolonging it; it gives activity to the disease, causes new tumours to arise which otherwise would not have appeared, and whose development and progress are much more rapid than the progress of the primitive tumour. Statistics have been adduced in support of this reasoning. M. Leroy d'Etiolles,* amongst others, having collected together 2781 facts, communicated by 174 French physicians, finds that in 1192 patients not operated on, 18 lived for more than thirty years, and that existence has been prolonged in others for two, four, six, ten, twenty, and twenty-five years. Having reached a certain stage of development, the disease remains stationary and indolent. Of 804 women operated on, 4 only lived for thirty years, 15 a little more than twenty, 88 from six to twenty; behold, says the author, what tends to prove that the operation is rather hurtful than useful!

By surgeons who know the difficulty of arriving at a sound statistic, those hitherto adduced, including the observations of M. Leroy, Monro, &c., will be held of no value. During forty years, I have certainly seen more than 1000 cases of tumours of the breast. It is clear, however, that I could only follow to the end but a few of these cases. In private practice there are many whom I have seen

* *Bulletin de l'Académie de Médecine*, t. ix. pp. 454—458.

only once or twice; even at home it has often been the same. This suffices, no doubt, to establish a diagnostic; but were I called on to say positively what has become of these tumours, how long the women have lived, or what happened to them after the operation, it is evident that I could not do so. The same difficulty exists in respect of those cases in which I have myself operated. The tumour being removed, the wound cicatrized, surgeon and patient speedily lose sight of each other. Many such patients came to me from the provinces, to which they have returned. Some even did not reside in France, nor continue in it. We lose sight even of those who live in Paris. In a large capital, where the population shifts continually, where the relations are constantly changing, the surgeon easily loses sight of such patients. The embarrassment is still greater in the hospital. Arriving there from all quarters of the country, the patients leave soon after their cure, to be seen no more by the surgeon who has operated on them, especially if the cure be complete.

Who would venture to admit as certain the permanent cure of a cancer, merely because the patient, cured at first, ceases to correspond with the surgeon? If it be true, that women in whom a relapse has happened seldom fail to request again the advice of the surgeon who has operated, it is also certain that many, discontented with the results of the operations, seek the advice of others. How is it possible with such elements to construct a useful statistic? Such, nevertheless, is the position of all surgeons.

If, on the other hand, we pay attention to the want of precision in the diagnostic of tumours of the breast, to the confusion still prevailing in the minds of almost all surgeons and physicians on this subject, we shall comprehend that the information obtained from so many various sources can be of no avail in the question in dispute, whether for or against the operation.

As regards myself, I have operated on a great number of women who have continued well, but I could not

possibly state the proportion. I have lost sight of, at the end of one, two, three, six, or ten months, a number of those who appeared to me definitely saved. With regard to those whom I have been able to follow beyond a certain number of years, and whom I still know, it may be objected to me, that science being then imperfect, that the evidence of the microscope being then unknown, I may have been deceived, like others, and have taken for cancers what belonged to the class of harmless tumours.

I cannot accept of such a conclusion. For more than thirty years I have endeavoured to distinguish amongst tumours of the breast the cancerous from the harmless; and for more than twenty years I have had sufficient practice of diagnosis to be sure of not confounding, when operation was the question, malignant tumours with the harmless.

A. OBSERVATION.—Moreover, a similar confusion could only be supposed in respect of certain tumours of a vague character, uncertain, or badly determined; and it is not of these I speak, when I say that I have removed a true cancer. The well-marked cancer, whether encephaloid or scirrhus, is, in fine, so easily detected, whether before or after an operation, that I never have occasion, nor need any surgeon attending to what I have said, to have recourse to the microscope to be certain that he has to do with a cancer. To put aside anterior observations as incomplete or without value, because the microscope was not in use, is a pretension which I vehemently oppose; and thus to desire the renovation of science when any one believes he has discovered a new element in pathology, is an ambition of too dangerous a character not to be combated on the spot. It is not because ancient observers did not employ the microscope, that their observations remain without a meaning; for provided there exists a description, it is easy to see whether it referred to a cancer or to some other disease. It is because such observations often consist merely of simple assertions, because they enable us to perceive that their authors were

not equal to the discrimination of a harmless from a malignant tumour, any more in the breast than elsewhere; it is also, and above all, because the patients cured at first were too soon lost sight of after the operation.

It is not the less true that a very considerable number of facts scattered through works, prove, without any reply, that women have been thus radically cured of true cancer; for my own part, I am in possession of more than twenty examples, perfectly well made out, without speaking of those of whom I have lost sight, and who, admitting the result to be less certain, are notwithstanding extremely probable instances of a radical cure. Here is an abridgment of some of these observations, the correctness of which, to a recent period, I can still vouch for.

OBSERVATION I.—*Softened Scirrhus of the Left Breast; a Woman of forty-four years of age. Extirpation; microscopic examination; cure; no relapse.*

Madame N——, a woman sanguine or confident, short in stature, rather fat, not generally in good health, still menstruating, has never had any children, consulted me in 1847, for a tumour in the left breast, already of five years' standing. Attributed to a blow, the disease came on very slowly. When I saw her the tumour was as large as a fowl's egg; pains had come on only within the last six months. Situated above, and a little external to the nipple, it represents an *ovoïd* mass, confounded with the mammary tissue; adhering by its centre to the skin, which was thin and somewhat reddened at this spot, hard, as if lardaceous near its circumference, firmer, and somewhat harder in its mass, it slightly fluctuated in the centre. There was nothing unnatural towards the axilla. After some days of preparation, the tumour was completely removed, with a certain thickness of the surrounding tissues. The wound, brought together by small slips of bandage, suppurated for a month, and was only fully cicatrized at the end of six weeks. From that time

the cure has been complete, and Madame N—— continues in possession of good health.

The pathological specimen was slightly pulpy towards the middle of its cutaneous surface. In other respects it had the density and all the other characters of scirrhus. The section presented a flat or dead grey colour, and by pressure the lactescent or cancer-juice might be squeezed out in considerable quantities. Its periphery, somewhat less dense or more distinctly fibrous, graduated insensibly into the normal tissues.

M. Follin, who assisted me, and who made the microscopic examination, ascertained in the tumour a considerable proportion of cancerous cellules, as may be seen at figure 2, plate iv.

OBSERVATION II.—*Scirrhus, not ulcerated, of the left breast; extirpation. Cure, without relapse.*

Madame G——, aged forty-six, naturally rather thin, and of delicate health, without however being positively ill, consulted me in 1841 for a tumour of the size of a fowl's egg, somewhat elongated, situated in the external and inferior half of the right mamma. Mother of several children, and still menstruating, Madame G—— did not know to what to ascribe the origin of her disease. The tumour was hard, rugous rather than embossed (*bosse-lée*) or crumpled, and evidently confounded with the mammary tissue; below and externally the skin, which adhered to it, began to wrinkle, and to become honey-combed or figured. There was no swelling in the axilla. The operation, determined on by Baron, the family physician, and by myself, presented nothing remarkable. Madame G——, whom I have since seen several times, and lately in 1853, has had no relapse.

The mass removed had all the characters of hard scirrhus, of which the central kernel was as it were lardaceous, and somewhat less hard than the exterior or peripheric layers. It was, besides, slightly softened only for an extent of about one centimetre (0·393708 inch), a little external to the place where the skin adhered to it.

Its density, the dotted tint, brown or greyish, of its section; the creamy or yellowish juice which exuded by pressure or by scraping with the scalpel; its continuity without any line of demarcation, with the glandular tissue, with the fibro-cellular tissue of the region, moreover, do not permit the slightest doubt to be entertained of the cancerous nature of the disease.

OBSERVATION III.—*Hard or Ligneous Scirrhus retracted; a Woman seventy years of age. Extirpation; cure, without relapse.*

Miss M——, seventy years old, small, bent, of wretched health, consulted me in 1837, for a tumour of the left breast, of five years' duration. At first small, and readily moveable, the tumour insensibly enlarged, so as to represent, when I saw it, a large plate of nearly one decimetre (3·937079 inches) transversely, and of from five to six centimetres (from 1·968540 to 2·362248 inches) from above downwards. Its greatest thickness was about three centimetres (1·181124 inch). Ulcerated below, it was at this point, as it were, concealed underneath and external to the mamma. Of a reddish-grey, dry, slightly crumpled or unequal, the edges of the ulcer were cut into a peak, without, however, being of any great thickness. The whole mass was hard, ligneous, and confounded with the integuments anteriorly. Its circumference was lost in the healthy tissues of the region. Two small ganglions, of the size of a small nut, served it as a prolongation towards the axilla, under the edge of the great pectoral muscle.

I believed it to be my duty to remove this tumour, notwithstanding the unfavourable circumstances of age and constitution, local and general, under which Miss M—— laboured, and even after remarking that the operation in such cases presented but little chance of success. Although obligated to remove a large portion of the neighbouring integuments along with the tumour, it was still possible to bring the edges of the wound to within the distance of about three centimetres (1·181124

inch). In two months and a half, Miss M—— was completely cured, to the great surprise of every one.

The pathological specimen had all the characters of the hard scirrhus perfectly well marked; the tissue hard, inextensible, homogeneous, excavated in its section, of a brownish-grey colour, dotted with white, giving out a reddish juice from its central nucleus, and continuous by rays with the glandular or cellular tissue of its circumference. This lady, who lived nine years afterwards without any return of the disease of the breast, died of a cerebral affection having no relation whatever with the original scirrhus.

OBSERVATION IV.—*Ulcerated Encephaloid Tumour in a Woman forty years of age, cured radically by extirpation.*

Madame L——, a butcher-woman, living in the street called Rue de Sèvres, consulted me in 1834, for a tumour, as large as the head of a child, situated in the right breast. She still menstruated, and had been several times delivered of children. The tumour was somewhat conical, occupied all the breast, presenting enormous crumplings or knotty tumours (*bosselures*), confounded with the skin, which was thin and red; of these knotty swellings, some, widely ulcerated, were spread out into fungous, mushroom-like excrescences. Moveable on the front of the chest, against which it was as it were plated, this tumour only left the skin free and sound towards its base; everywhere else the tissues of the region were confounded with the pathological production. It was fungous, soft, and as if fluctuating in its chief crumplings (*bosselures*); sufficiently firm towards its circumference, and in the homogeneous portions of its mass. An infected, ichorous, sanguinolent matter exuded from its cauliflower-like ulcers. For some days, hæmorrhages, which threatened to become alarming, took place by these; and balls or clews of medullary matter, occasionally detached with the dressings, were soon replaced by new vegetations: as yet, there were no diseased glands in the

axilla, nor under the edge of the great pectoral muscle, and the health in other respects remained nearly unchanged. Some days afterwards, with the assistance of M. Thirial, I removed the whole of this mass. As the skin was sacrificed throughout a large extent, union by the first intention was impossible; but, notwithstanding, the cure was effected in two months, and Madame L—— continues perfectly well to the present day (1853).

The tumour thus removed was composed at its base, and here and there in other points of its thickness, of a lardaceous tissue, grey, yellow, or reddish, in which a fatty tissue, indurated cellular tissue, and some remains of the mamma, altered and flattened, might be detected. Elsewhere, what we meet with is balls or clews, separated by partitions or confounded with each other, of which some are still solid and difficult to break down under the fingers, whilst others altogether resemble the cerebral tissue; there are also some diffuent, like a reddish-grey *bouillie*. By pressure, there exudes in abundance the lactescent or semi-purulent juice, characteristic of the encephaloïd matter. The fine, long-haired looking vascular tissue of the medullary cancer is found everywhere. In a word, it is not possible to meet with an encephaloïd or cerebriiform mass, a fungous cancer, better characterized; and if ever the diagnostic of a cancerous tumour could be easy and certain, it certainly was in the case I now describe.

OBSERVATION V.—*Scirrhus, with ganglions in the axilla. Extirpation; cure.*

A woman, aged fifty-eight, was admitted into the Clinical Hospital on the 10th of June, 1826, who had in the left breast, for eighteen months, a very hard tumour, adhering to the skin, as if plated to the ribs, elongated transversely, of the size of the fist, accompanied with frequent shooting pains, and whose cause was unknown. Several small, rounded, and moveable tumours formed a kind of beaded string, which followed the deep surface of the border of the great pectoral muscle as far as the

axilla; some enlarged glands exist above the corresponding collar-bone. This complication, which had induced some surgeons to decline acting, did not dishearten M. Roux, who, encouraged by the solicitations and the good constitution of the patient, extirpated the tumour of the breast, as well as all the axillary ganglions, on the 18th of June. The extent of the wound and the inextensibility of the skin, rendered union of the wound by the first intention impossible.

The cicatrization of the wound, far advanced on the 30th of June, was almost complete on the 6th of July. Despite a cold caught on the 8th, the cure was completed on the 20th. The supraclavicular tumours disappeared, and up to the present time (15th of November, 1853) there is no appearance of a relapse.

The tumours in the axilla were true lymphatic glands changed into lardaceous tissue, mixed with a very hard cheesy matter; that of the breast, formed of the mamma degenerated, presented part of the characters of the fibrous tissue mingled with the true scirrhus; but its limits were quite distinct, and no shoot or root of hardened cellular tissue could be seen on its circumference.

These, then, are cures, which, like those described in other chapters, have continued for twenty, fifteen, twelve, six, and four years, in a number of women operated on for tumours, the cancerous nature of which cannot be questioned.

If, besides, the cancerous tumour were but the physical manifestation of a general disease, how is this return to health to be explained? this cure, at least temporary, which so often follows the operation, and during which these blanched women, with a countenance deeply affected by their local disease, so speedily recover their strength, their flesh, colour, freshness, and a wonderful condition of general health? If the entire economy had been primarily infected, the cure of the external disease could not so ameliorate the general condition. This cure, even temporary, this return to the best health pos-

sible, after the removal of several cancers of the breast, is, notwithstanding, a very frequent fact.

When the relapse does take place, is it not, eighteen times out of twenty, in the form of small tumours in the neighbourhood of the cicatrix or of the wound? On what grounds can this be ascribed to an eccentric effort of the economy, rather than to germs proceeding from the tumour itself by expansion, scattered about by different routes into the organic atmosphere of which this tumour formed the centre?

From all these difficulties, embarrassments, and from a crowd of other difficulties it were easy to accumulate here, it results, in my opinion :

1st. That no plausible reason can be given for viewing cancer as a general disease, primarily.

2nd. That, on the contrary, it ought to be considered rather as a local disease in the first instance.

3rd. That certain tumours of a harmless nature, *seem* in some cases to undergo a malignant transformation.

4th. That harmless or malignant tumours, adenoïd, and even cancerous, of the breast are probably caused by a plastic exudation, hematic or secreted, into the normal tissues, whether spontaneous, or exalted by external violence.

5th. That the existence or the non-existence of the cancerous cellule in tumours, is no proof that the disease will or will not return after the operation.

6th. That it would therefore be imprudent to trust to the microscope in deciding for or against the operation.

7th. That observation and statistics are far from proving that the extirpation of tumours of the breast is always followed by relapse, always useless, or even injurious.

8th. Finally, that facts sufficiently numerous prove, that observations drawn from my own practice demonstrate, without the possibility of doubt, radical cures by operation, of cancers the most unquestionable.

B. *Forms of Cancer.*—But this does not mean that we

may expect to cure all sorts of cancer by operation. A long experience, on the contrary, has shown me that certain forms, that cancer at a certain stage, that cancer accompanied with certain appearances, will return always, or nearly so.

Thus the plated scirrhus (*scirrhe en plaques*), disseminated or cuirass-shaped, ought not to be operated on; even at its commencement, and with a single plate, the operation cannot cure the patient, for it returns always, and in general very rapidly. The same must be said of pustular cancer, whether distinct or confluent. Cancers of this kind, I feel assured, have never been cured by operation.

The hard or ligneous scirrhus *en masse*, and the diffuse lardaceous scirrhus, are altogether in the same case. I had already made the observation nearly thirty years ago. Even when the integuments have not been involved, these kinds of cancers invariably return, and no more yield to the bistoury than to any other form of treatment.

Whenever the scirrhus and the skin are united in a diffuse manner, whenever the scirrhus is rather convex than depressed, when the tegumentary degeneration has no appreciable limits, that the whole mamma is more or less doughy,* nothing is to be hoped for from the operation. Even when it would be possible to remove with certainty every part appreciably affected, even when there exists no appearance of a tumour in the axilla, under the edge of the great pectoral muscle, above the collar bone, or around the principal disease, you may rest assured that the disease will return.

Experience permits me to say in a still more general way, that every cancer, whether in the form of scirrhus or of the encephaloïd, which has the appearance of a diffuse tumour, or disseminated, will infallibly return

* *Empâtée, empatement*, terms frequently used by French surgeons to express a non-inflammatory swelling, which pits on pressure more or less, and retains the pressure of the finger, thus having some relation to œdema.—Tn.

after the operation. I may say of cancer, on this occasion, what I have said of gangrene,—so long as the affection has not localized itself, so long as it continues to extend itself *en nappe* (continuedly), or in a mass in the integuments, or even in the gland, the operation will not arrest its development, will not succeed in saving the patients.

I have often extirpated these different sorts of cancer: for a long time the only rule I observed in respect of them was the possibility or impossibility of removing all the parts ostensibly diseased. When the integuments were confounded with the tumour, I still operated, at the risk of being obliged to borrow from the neighbouring regions some supple tissues to close up the wound. If the scirrhus pustules were not too multiplied, too far from each other, I removed them one by one in a plate of skin or of the mamma. It was the same with the ligneous, or hard tegumentary plates. The axillary ganglions, the sub-pectoral tumours, did not prevent me acting in these various circumstances, and it was in consequence of having been deceived many times, that I ended by renouncing the operation, and that I recommend young surgeons not to operate on such tumours.

It is necessary, however, to distinguish in this respect, and to distinguish carefully, the partial, hard or ligneous scirrhus, with retraction of the mamma, or with folding of the skin: the radiated scirrhus itself from the hard scirrhus *en masse*; from the diffuse lardaceous scirrhus, complicated with pustular scirrhus, or with disseminated scirrhus plates. In these last kinds, in fact, the operation ought to be absolutely proscribed, even when there exists no danger towards the axilla, even when it were possible and even easy to remove the entire of the affected parts. If the anathema of Boyer* had been directed solely to this category of cancers, and not against cancers generally, I would have applauded it. In saying that in true cancer a relapse is pretty nearly

* *Op. cit.*, p. 238.

inevitable, M. Vidal* is in like manner only right in respect of the forms just pointed out.

In the other species, on the contrary, if the limits of the disease be evident, if the altered ganglions under the great pectoral or towards the axilla are still moveable, if, in a word, it does not seem too difficult to remove with certainty all the tumours, the operation is admissible: it offers still some chance of success, and ought to be performed. Whether the encephaloïd cancer be ulcerated or not; whether the tumour be still untouched, or spread out externally in the form of the mushroom; whether it be moveable or not in the tissues,—the extirpation is indicated so long as there are no cancerous tumours elsewhere, neither in the form of pustules nor in that of plates in the neighbourhood, so long as the general condition of the woman gives no evidence of a cachexia, of an internal affection.

In these cases, the operation is not to be rejected unless there exist swellings under the clavicles, along the neck, or in some other more distant region. But it must be rejected, nevertheless, if the axilla be filled with disseminated ganglions, whether in masses deeply situated under the collar-bone, or between the pectoral muscles.

In fine, extirpation is the rule, exclusive of cancers naturally refractory, so long as it is possible, without too much difficulty or danger, to remove the entire tumour, or all the parts appreciable externally; but it must be renounced, on the contrary, in cases presenting the opposite conditions. Thus instructed by clinical experience, I have declined the operation in a vast number of women; to such an extent, indeed, that I send away from the public consultation, or from the hospital itself, almost as many cases unoperated on, as those on whom I think the operation ought to be performed. In a list of 52 encephaloïds, I refused operating on 14 women; and of 183 affected with scirrhus, I recommended 54 not to consent to any operation. In my private apartments,

* Tome iii. 3rd edit. p. 806.

and in my private practice, in consultations in the city, I meet with at least 50 such cases annually. A good number of these women have been operated on by other surgeons, bolder or more confident than myself; but on all occasions in which I have been able to trace the history of the case, I have learned either that they died of the operation itself, or that the cancer speedily returned.

Scirrhus or lardaceous encephaloid tumours have in this respect a something treacherous. One would say they are distinctly limited; it is easy to remove them entirely. Young surgeons, even the most experienced and clever, fall daily into this mistake. When patients afflicted with these kinds of tumours come to consult me, whether privately or at the hospital, whether alone or accompanied by other medical men, I persuade them not to be operated on. They next address themselves, either directly or through the medium of friends, to other surgeons, who advise and practise the operation. All goes on well at first; the wound cleanses itself, and even cicatrizes, but the poor women and the surgeon do not long enjoy their good fortune. The cancer returns, whether around the cicatrix, or in the axilla, or above or below the collar-bone

From this time regrets take the place of joy; and I know of nothing more cruel, more frightful, than the sight of those poor women in whom the cancer has returned after being operated on. To see them daily or weekly, and not to know what to say to them, what remedies to advise, what look to put on to prevent their perceiving the despair of the surgeon in the results of the case!

One must have experienced a certain number of times this painful position, and have grown old in practice, in order to feel all the importance of not practising the extirpation of cancerous tumours in cases in which there are no chances of a radical cure. It is here more than anywhere that we must think of to-morrow; a sufficiency of cancers return after the amputation of tumours

which offer some chances of radical cures, without extirpating those whose form permits us to say beforehand that they are certain to return.

It is not because a cancer is ulcerated, or old, or fungous, or painful, or large, or very extended, that we ought not to think of operating; but rather because it is of such or such a nature, or rather of such or such a form. I have operated on encephaloids largely ulcerated, enormous sanious, cauliflower-shaped excrescences, which have not returned; and I have seen a relapse after the removal of encephaloid tumours still small and covered with sound integuments. I have seen the disease return after the removal of a small indolent scirrhus, still concealed by the integuments; and I have seen, on the other hand, a radical cure follow the extirpation of scirrhus cancers largely excavated by ulceration.

I have observed that tumours of a scirrhus nature, especially the encephaloid, which are rapidly developed, and to which the name of acute cancers might be given, return with frightful obstinacy. There are some which in nine months grow to the size of an egg or of the fist, often without the patient being aware of it, and giving rise to others in the axilla, or under the edge of the great pectoral, or even in the opposite mamma. These tumours, which almost all belong to schirrus and to the encephaloid, diffused or *en masse*, are of the most terrible kind. Unoperated on, they destroy rapidly, and the operation in no way arrests their development: their progress, in some measure *galloping*, allows their being compared in this respect to the acute phthisis: and it is from having ascertained this unhappy fact a great number of times, that for more than ten years I have declined operating on them.

If one feels inclined to take into account the counter-indications foreign to the nature or form alone of the tumour, there still exist many. On all occasions, when the cancer, of whatever species, cannot be destroyed without the removal of a large extent of integuments, it is better not to touch it; the operation will not succeed.

If the tumour adhere to the ribs; if, with a still better reason, some of the ribs are comprised in the cancer, it would be more than rashness, it would be barbarity itself, to attempt the extirpation; and we find a difficulty in the present day to comprehend the kind of celebrity which attached itself for an instant to the name of Richerand in 1818, on the occasion of an operation of this kind. It is certain, in fact, that prior to involving the ribs, the cancer has become generalized; that even were the operation to succeed as an operation, the disease must return. As the operation on such an occasion is extremely dangerous, without being in itself very difficult, without requiring high surgical talent, seeing that it lays open the chest, the *prurigo secandi* must be strong to induce any one to practise it.

C. A more embarrassing complication arises from the existence of *ganglions in the axilla*. Cancerous tumours return so often, even when isolated, single, and when it is practicable to remove with them a layer of perfectly sound tissue, that the chance of a radical cure must be slender when secondary tumours have appeared in the neighbourhood. One may extirpate, it is true, at the same time, all the glandular grains, all the dangerous masses, which border or fill the sub-pectoral region, which occupy the hollow of the axilla: but who can be certain, even then, that no similar germ, no affected lymphatic ganglion, has escaped the searching bistoury of the surgeon?

If the lymphatic system be charged with the elements of cancer, to such a degree as to transport them to a certain distance, how can we believe that there exists no trace beyond what we perceive, beyond what our senses enable us to detect? How can we be certain that there exists not in the neighbourhood some cancerous molecule abroad? Have not all these tumours been so small at first as to be undetectable by the most attentive observer? By what sign shall we recognise a cancer of the size of a pin head, for example? and, nevertheless, who can doubt that a number of

cancerous tumours were not still smaller at their commencement?

An instant's reflection suffices, then, to prove the presence of ganglionic swellings in the axilla to be a troublesome condition. As a counter-indication, however, it is not absolute. Many surgeons relate examples of success, even after they had been forced to penetrate deeply into the axilla. Some even have succeeded despite the presence of ganglions above the collar-bone.

It is necessary, however, to enter into some explanation on this point. Nothing proves at first, that in all the cases indicated the tumours extirpated were really cancers; we may suppose that, in some women at least, the tumours were harmless. Another serious question in general pathology is raised by these facts. It is not impossible that, in a woman attacked with cancer of the breast, ganglionic tumours, by simple hypertrophy, by common inflammation, may become established, or may pre-exist, either in the axilla or in the supra-clavicular hollow. On the other hand, the cancerous tumour is felt in the neighbouring glands in two different ways. 1st. By yielding some of its molecules to the lymphatic system, the cancer, thus transported, must of necessity give rise to tumours of the same nature: 2nd. It may happen, on the contrary, that the ganglions swell under the influence of the irritation which the cancer causes in the mamma, as would happen in any other pathological state, of any irritation of a harmless nature.

Now in this latter case it is evident that the coincidence of similar tumours would be no obstacle to the complete success of the operation. I have often seen similar swellings diminish remarkably before the operation, under the influence of the frequently-repeated application of leeches topically, or of emollients or discutients. I have also seen, seldom, it is true, lymphatic ganglions of the axilla subside after the operation, by the same treatment. Finally, some women, who had in the axilla concomitant tumours which it was required

to remove, and which were certainly cancerous, as has been seen above, have, notwithstanding, been radically cured.

Thus, without being a formal counter-indication, enlarged axillary glands render the success of extirpation of cancers of the breast extremely doubtful. One ought, then, to decide on operating in such cases, only when all the other conditions are favourable.

D. Sexual Organs.—It is proper, also, to know in what condition the sexual organs are.

After the breasts, the womb is the organ most frequently affected with cancer. Should the disease be present in both organs at the same time, it is clear that no operation should be attempted on the bosom. The coincidence of the affection in the genital organs and in the mamma has, however, appeared to me very rare; I have scarcely met with it but in patients who have been for a long time a prey to strongly-marked cancerous cachexia. I have even been struck with a fact on this occasion—it is this, cancer of the breast repeats itself less often in the genital organs than anywhere else. I have often seen the infection in the lung, liver, bones, muscles, in short everywhere, without finding the slightest trace of it in the uterus, in women originally attacked with cancer of the breast.

It is certain, on the other hand, that cancer of the womb, whether by dépôt or by infiltration, whether encephaloïd or epithelial, is infinitely less susceptible of reproduction in other organs than cancer of the breast. It consumes, it destroys, it disorganizes, bit by bit, the womb, vagina, bladder, rectum, all the parts contained in the pelvis; but it seldom gives rise to similar productions in the rest of the abdomen, or in distant regions. At the most, it leads sometimes to a cancerous transformation of the lymphatic ganglions of the groin, of the pelvis, or loins. In general its progress more resembles cancers of the face, the epithelial cancers of the lips, than cancers of the breast.

The presence of a cancer in the mamma is no authority

for suspecting a similar disease in the uterus; and if there be nothing more to indicate a serious lesion in this direction, there is no occasion to dread it.

E. The presence of a *second cancer, inoperable*, always forbids any operation on that of the breast. With the idea that there exists in the breast, the stomach, liver, or in any other point of the abdomen, another cancer, it is evident that the disease of the breast is but secondary, and that it would be useless to attack it by surgical means.

Its presence in both mammae at the same time has always appeared to me a sign of the generalization of the disease. I have, moreover, only met with ten cases of this coincidence in more than two hundred examples of schirrus, and still more rarely in the encephaloïd. The hard or ligneous schirrus *en masse*, or in plates, the lardaceous scirrhus, and encephaloïd diffused, kinds of cancer which, in my opinion, are not to be operated on in any case, have also appeared single. The observation so often alluded to, of Ledran amputating both breasts in a woman on the same day, is not of a kind to shake my conviction on this point; for if the patient operated on by this surgeon was in reality affected with cancer, I do not find anywhere the proofs of a radical recovery.

The multiple cancer authorizes the operation only when the tumours exist in the same breast,—that is to say, when consequent of each other, they are the result of a transmission by continuity.

F. *Hereditary disposition*.—It is certain that cancer in a woman whose mother died of cancer, ought to inspire more dread of the future, than in patients otherwise situated. It would be wrong, however, to admit *hérédité* in itself to be a formal counter-indication to an operation. In the first place, all the children of a cancerous mother are not fatally doomed to cancer; and next, the radical cure of cancer is possible in women sprung from cancerous parents. I could quote many examples: here is one of the most conclusive.

Two sisters, superb women besides, Madame de V——, and Madame L'h——, whose mother died of a cancer-

ous affection, were seized, both, the one at the age of thirty-four, the other at thirty-five, with tumours of the left breast. In both, the tumour occupied the external side of the mamma. In neither were there any enlarged axillary ganglions. I operated on one in 1848, on the other in 1849. In Madame de V—— the tumour was a partial scirrhus, a little lardaceous; in Madame L'h—— it was an encephaloid, equally lardaceous at its base, softened, almost liquefied at the summit. In her the tumour was larger than the fist; in her sister it was the size of a fowl's egg.

The results of the operation were simple and regular in both cases. The general health was well restored in both, but at the end of nine months the cancer reappeared in Madame de V——. A new operation became necessary six months afterwards. The wound of this second operation was scarcely cicatrized, when scirrhous tubercles, disseminated cancerous pustules, appeared here and there around the cicatrix. Madame L'h—— remained cured, and to this day continues quite well.*

The reason assigned by Monro for rejecting the operation on every occasion when it cannot be traced to an external cause, is ill-founded. I have already shown that a local injury may have been the cause of the tumour, without the patient knowing it, and without it being possible for the surgeon to be acquainted with the facts: to such a degree, indeed, that admitting that we cannot assert such or such a case to have its origin in external violence, one is seldom in a position to maintain absolutely the contrary. Such an argument, then, cannot be employed for or against the operation. I have seen cancer return in women who attributed their disease to a blow, as well as in those who knew no such reason; and I have seen some of these last cured radically after the operation as well as the others.

* The cancer which reappeared was the partial scirrhus, somewhat lardaceous; the encephaloid did not return.—Tr.

Reasoning alone has made people say that the ulcerated cancer, the painful cancer, ought not to be extirpated. Some of the women on whom I have operated, and who have continued well, had either a very large scirrhous, or an encephaloïd extensively ulcerated. The absence of pain is a condition so little to be trusted, that the encephaloïd cancer, which returns with such obstinacy, is precisely the most indolent of all the cancers.

With those who assign to cancer an external origin, who make of it a disease originally local, there is no difficulty, no divergence, on the side to take; the operation is to be performed as soon as possible. With those, on the contrary, who view it merely as a manifestation of a special condition of the whole economy, two opinions are adopted. Some decline the operation altogether, and under all circumstances; in their opinion it would be dangerous because it cannot cure; the others, not denying its utility, prefer it only at an advanced stage of the disease.

M. Baffos, who, I understand, supports this last doctrine, believes that the later we operate the greater is the chance of success; his reason is, that the tumour serves in some measure as an emunctory of the organism, and that at a given time all the cancerous molecules may be deposited or accumulated in the external tumour. The operation would thus remove the mass of heterogeneous principles of which the tumour has finally freed the body, by concentrating them on a single point. But I do not think it necessary to discuss the elements of this strange opinion, which has been adopted and defended by M. Hervez de Chégoin,* nor to refute it in detail. If the cancerous disease be at first a general affection, there is nothing to hope for in its duration, and the longer we wait, the more it spreads, the more danger there is of the cancers multiplying.

Since it is neither from the feelings, nor age, nor ante-

* *Bulletin de l'Acad. de Méd.*, t. x. pp. 535—546.

cedents of the patients, nor from the volume, indolence, nor ulceration of the tumour, but according to the nature or the specific form of the disease, that we must decide, it is evident that the sooner we operate, the better chance we have of a radical cure; and M. Moreau, discussing this question,* could only have said, from not reflecting on it, "that we ought not at first to operate on tumours of the breast, since there is always time to do this."

Boyer† was desirous that it were possible to distinguish the tumours which resemble cancers without being cancerous, from the true cancer. Then, says he, we should decline operating on the latter, but we might operate on the former with advantage. Moreover, the opinion of the author is even on this point uncertain; for in the same page in which he prescribes the operation, and in various other passages of the article, he seems to say the contrary. I believe besides, that I have enabled practitioners to make the distinction sought for by Boyer.

If a tumour *really cancerous* is not in a favourable condition, the surgeon ought in every case to be extremely prudent and circumspect in the advice he gives. Instead of strongly recommending the operation, and urging the patients to consent to it, he will do well to limit himself to the observation, that "without the operation the tumour will not get better, whilst with the operation there is some chance of overcoming it;" and to warn some of the relations, that even with the operation a relapse is much to be dreaded. Thus informed, if the family still agree, the surgeon operates without fear of reproaches: he has acted on his conviction, at the same time remained within the limits of duty and of science.

It may happen, on the other hand, that cancers which offer no chance of a radical cure, exist in some women who, at all risks, demand the operation. Surgeons often find themselves in this position; for patients who

* *Bulletin de l'Académie*, t. ix. p. 367.

† Tome vii. p. 337.

at first decline the operation, almost always end by urging its performance.

The number of those to whom I have under such circumstances been compelled to refuse the aid of the bistoury is considerable. I meet with certainty thirty per annum, whether in the hospital or in consultations. On no account ought the surgeon to yield to the solicitations of the patient, if the case be one of those which I have removed from the circle of operation, or there be present one of the unanswerable counter-indications mentioned above. On 183 women who entered the hospital for scirrhus, I refused the operation to more than 50. But in those cases where the counter-indication leaves the smallest doubt, where the operation in itself does not seem to expose the patient to much danger, the surgeon may, making his reservations, yield to the desires of the patient or of those around her.

Still a word. For cancer, there are operations in some measure palliative, as there are palliative topical and internal remedies. Thus, there are some ulcerated scirrhus which it is suitable to attack with caustic, with the single object of causing too painful a part to mortify. An irregularly-swollen encephaloid, covered with large cauliflower excrescences, may require that some of its swollen parts (*bosselures*) be detached, to relieve the patient for an instant. A scirrhus tubercle, a limited cerebroid vegetation, easy to seize and to extirpate, are sometimes also removed, even when other tumours of the same nature exist elsewhere, which it is not intended to touch, because these small operations give the patient confidence and hope, without aggravating her position. It is necessary, however, to be extremely prudent in the use, occasionally of the bistoury, at other times of caustics, sometimes of the heated iron, at other times of ligatures. This plan, which I have followed for more than twenty years, is also that of M. Laugier, and the absolute practice of M. Maisonneuve,* who proposes the

* *Leçons Cliniques*, p. 51.

operation in every case, even when it is not possible wholly to remove it nor to cure it, appears to me acceptable only in cases of this kind.

§ II.—*Dangers of the Operation.*

To sum up, those who reject the operation on principle, adduce two main reasons:—

1st. It is of no use. The preceding details disprove this assertion.

2nd. It is dangerous. On this point there has been great exaggeration.

The extirpation of tumours of the breast is not very dangerous in itself; some surgeons, physicians, and especially the non-professional, confound on this subject the dangers of the disease with those of the operation. Listen to what is said in families. In twenty different places it is said, such or such a woman affected with cancer was operated on, and died. Inquire more narrowly, and you will find that these women are really dead, not in consequence of the operation, but, for the most part, at the end of some months, of a year or more, in consequence of a return of the cancer.

The operation is serious, and compromises life only in very advanced cases of cancer, when it becomes necessary to penetrate into the axilla; in a word, in serious, complicated cases. When the tumours are limited, moveable, single, seemingly local, the operation is not dangerous nor difficult. In other terms, the danger is not in the operation, it is in the possibility of a relapse. The proof is, that generally the wound cicatrizes and heals promptly, the women feel themselves well at first, and if they die afterwards, it is a consequence of new tumours, or of a generalization of cancer. With all these untoward conditions, in the midst of erysipelas and of the rottenness of an hospital, I had 32 deaths of 167 operated on; that is to say, about 1 in 6.

In simple cases and in benign tumours, the operation is so little serious that it scarcely causes fever; that the women operated on do not require being put on short

allowance; that after some days they may be allowed to leave their bed, and that in less than a month they may be completely restored. A fact which, besides, decides the question is, that in a list of nearly sixty adenoïd tumours operated on by myself, but one died! And in what way? A young woman, operated on eight days previously, who believed herself cured, and who had for four days been walking about the garden, after a chill is seized with tetanus, which destroyed her on the fifth day.

Even as regards cancers, I have only seen pleurisy by contiguity or near approach, gangrene, purulent infection as a consequence of a complex operation, in cases, in fine, serious in themselves.

I have, it is true, seen two women die in the space of some days, of singular accidents, without the examination of the body after death explaining to us the cause; these deaths followed the extirpation of cancerous tumours, lardaceous scirrhus, isolated, of moderate size, and after an operation sufficiently simple; but these are exceptional facts altogether unusual, which, like an erysipelas, may happen in consequence of a blister, a burn or scald, a scarification and cupping glass, as well as after a great surgical operation.

Thus, it is not by the dangers, by the gravity of the operation, that we must be stopped on every occasion, when by its aid we have some chance of destroying cancers of the breast; and as this operation is less severe in proportion as the tumour giving cause for it is more simple or less bulky, we should decide on it as soon as possible.

In place of curing it when it does not succeed, the operation, on the contrary, lends it, they say, activity, hurrying on the progress of the disease, the violence of which it besides augments. This proposition, like the preceding, is the result of a confusion it becomes necessary to dissipate. True, when the operation is performed for one form of scirrhus which does not admit of operation, and which I have pointed out, it is false in almost every other case. I have seen the disease aug-

ment in intensity rather than retrograde, when I removed the hard scirrhus *en masse*, the diffuse lardaceous scirrhus, or the encephaloid, the tubercular or pustular scirrhus, the tegumentary disseminated scirrhus; and it is precisely for this reason that I have long ceased to operate on such cancers. The cancers whose course is rendered more active by operation are the encephaloids, which seize on the parts at once, or which are developed with rapidity, the acute encephaloid, the galloping cancer, all those, in fine, which lose themselves in the tissues without precise limits; on all other occasions the operation retards rather than hastens the explosion of the cancerous principle.

Even when it must return, the patients, freed of a cancer of the breast by operation, often get well, and continue so for months, and even for years. It were easy for me to relate here the history of a great many women who, after the operation, have been restored to the very best health.

Madame S——, on whom I operated in January, 1851, had a scirrhus, extensively ulcerated, as if plated, near the sternum, before the sterno-costal cartilages, to the left. The pains she experienced, the distress she suffered, had greatly reduced her strength and flesh. Her digestion was painful, and already she had a slight cachectic look.

At three different times the wound was covered with grey fungous plates, which caused me real fears, and which I took for a moment to be new cancerous vegetations. Notwithstanding, the wound cicatrized. Once relieved, Madame S—— improved in her digestion, recovered her usual gaiety, flesh, freshness, and all the appearances of perfect health. She thus passed the summer, and despite torments, disquietudes of all sorts, too well justified by the death of her husband, she had lost nothing of her good appearance in January, 1852, when a new tumour showed itself above the right collar-bone.

In place of a year, other women have had two, three, or even four years of a real cure.

As an example of a tardy relapse, I may mention amongst others a patient from Dunkerque, who had a well-marked sarcocele removed by operation, and continued well for fourteen years. He died in 1851, and the examination of the body after death showed that his death was caused by the development of a cancerous tumour in the interior of the pelvis.

I saw, in the hospital of la Charité, a woman die of an ulcerated cancer of the axilla, after having remained twelve years well, reckoning from the period when an ulcerated scirrhus of the mamma had been removed by operation.

It is, consequently, inexact to affirm in a general way that the operation hastens the unfortunate end, in place of retarding it, when applied to tumours of a cancerous nature, and when the cure is not radical.

We find, besides, in these temporary cures, an additional proof of the doctrine which maintains that cancer is primitively a local affection.

Now that pain may be avoided during operations, there can be no good reason for declining to operate, provided the tumours be as described. Before the discovery of etherization, the pain was a real terror; it might seem cruel to subject women to such tortures with the sole view of prolonging for some months their sad existence. It must be admitted that the condition of things has greatly altered in this respect. Without the operation, the disease is not only incurable, but besides, as it proceeds, it terminates by torturing the patients. To be resigned to the hopelessness of a cure does not suffice; the cancerous tumour, scirrhus or encephaloid, will ulcerate; it will become the seat of hæmorrhagies, of acute pains; it will lead to the tomb only after a thousand sufferings, after having given rise to other tumours or other ulcers, swellings, neuralgies of the arm, anorexia, vomiting, emaciation, want of sleep, diarrhœa, infiltrations, etc.—that is to say, that by itself the disease will give rise to, slowly, or by jerks, all that can be said against the operation in the unfortunate cases, before causing the death of the patient.

If this unhappy perspective was in some measure formerly balanced by the horror which a bloody operation necessarily inspires, it is evidently no longer so.

§ III.—*Preparatory Treatment.*

Should any other treatment be used before having recourse to an operation? According to the old opinions, according to the opinions still governing the minds of medical men on the subject, an operation is only to be had recourse to when every other measure has been tried and failed.

Most patients would think it strange were the extirpation proposed to them before having tried a great number of remedies; and physicians generally, a number even of surgeons, reasoning on this matter like the non-professional, would readily blame those who propose an early operation. *There is more humanity in curing ten tumours without an operation, than in extirpating fifty,* is their axiom.

A common axiom, as false as ridiculous, good only for those who can distinguish nothing, who daily confound cancers with harmless tumours. Such persons, in fact, can take no side, since they only determine the existence of cancer by exhausting fruitlessly all the resources of their therapeutic arsenal.

The question, in reality, is quite different: if the tumour be positively cancerous, if the surgeon be in a position correctly to determine the diagnostic, what purpose will it serve to struggle against it? It is perfectly established that no known medication can overcome it, no more when it is small and at its commencement, than when it has attained its utmost development? I insist on this fact; it is essential that medical men know once for all that cancer, the true cancer, is refractory at all points to topical and general remedies hitherto recommended. When a cancer exists, there is but one thing to be done, and that is, to remove it as soon as possible. To temporize, then, is not merely to lose time, but to expose the patient to the risk of loss of the general

health. If the medicines be energetic, they may disturb the whole economy, and more especially derange the digestive functions. Erysipelas, excoriations, will arise under the employment of topical discutients, and, what is more unfortunate, the disease, from being local, will become general.

Cancer, at first a local disease, cannot be left without danger in the midst of the tissues: to do this is the height of imprudence. How can we avoid the alarm lest the intimate elements of the tumour should at any instant pass into the circulatory system, and poison the whole organism? How avoid the dread lest this tumour, still single, should soon become the germ of similar tumours around it, in an atmosphere the radii of which it is impossible to measure? Who does not shudder at the thought of seeing a disease thus become general, which might readily at first have been removed, and which, once escaping from its original seat, spares no one, and can be overcome neither by medicine nor surgery?

Supposing even that, with such views, the operator sometimes attacks tumours which are not cancerous, what inconvenience can result from this? If, for example, the surgeon should happen to remove adenoïd tumours instead of those decidedly cancerous, the worst would be the having performed an operation which perhaps was not indispensable, but which, in such a case, is still the best remedy.

The more I reflect on it, the less can I understand how the dangers of the operation can be put in competition with those resulting from delay. On one hand we have, in the case of a harmless tumour, a simple incision, of which the woman will be cured in fifteen days or a month, without a chance of a relapse,—an incision which removes with the tumour all the anxieties of the patient and her friends,—which, pronouncing on the certainty of a radical cure, gives confidence to all, and removes all fear of cancer for the future. What perspective is there, on the other hand, even supposing the tumour to be

harmless?—a tumour, which once in fifty times may disappear spontaneously, or yield to the more or less fatiguing employment of a thousand modes of treatment more or less calculated to derange the general health; which in every case must be an object of perpetual anxiety; which may remain stationary during six months, during a year; which may then increase by leaps or insensibly, slowly or rapidly; which more generally will not the less certainly require at last to be extirpated; which, finally, in certain cases, seems to be able to change its character, and approach singularly to the nature of cancer?

Where, in fine, is the medical man who has passed his life in the midst of the diseased, in the midst of the fears of their families, who would not bitterly reproach himself for having recommended useless medication or the expectant, against tumours which it was easy to cure by an operation, when these end by assuming the look of cancers, putting on such characters of malignity that surgery itself can no longer remedy?

In fine, in whatever way, from whatever side, we view this question, the operation, 1st, is preferable to all other treatment against cancers, and even against adenoïd or harmless tumours of the breast; 2nd, it ought to be resorted to as early as possible.

There exist, however, some tumours which ought to be treated otherwise than by operation. Such are the purely hypertrophic, the various swellings, thickenings or indurations caused by former inflammations or sub-inflammations, and which I have considered in other chapters.

The slightly painful indurations, comprising some lobules, some radii of the mamma, and which might strictly be considered as the commencement of scirrhus, but as yet without having all its characters and true physiognomy, also admit of the external and internal discutient treatment for some months. I have met with fortunate results in such cases. Three principal reasons justify this treatment:—1. There is a great

chance of curing the patients thus affected. 2. One is sure of the harmless nature of the disease; it is at least allowable to doubt its malignity. 3. In all cases the tumour being diffused or without precise limits, a serious operation would be required in order to ensure the removal of the entire disease.

Should the case happen not to be cancerous, the tumefaction will yield, change its look, and will soon enter the category of phlegmasic products, or the purely hypertrophic; in the contrary case, its intimate characters will not be long of showing themselves in such a way as to render its nature no longer doubtful.

I hasten to add, that in temporizing in this way, my intention is to do all that is possible to cure tumours of a doubtful nature, as well as to elucidate the essence of the disease by medication. So soon as the treatment proves unsuccessful, it does not follow, in fact, that the tumour is really of a malignant nature, since adenoid tumours, since many simple hypertrophic tumours, although of a harmless nature, resist obstinately, and almost uniformly, discutient treatment, whether internal or external.

So soon, then, as the tumour has truly shown its clearly cancerous character, I cease from all attempts at resolution, and propose the extirpation; in other terms, I do not think it right to submit to any curative treatment tumours of the breast from the time that their cancerous nature can be diagnosticated with certainty.

Moreover, my aim is not to reject absolutely the discutient treatment before resorting to the operation: I wish merely to warn young surgeons against a delay which may be dangerous. If the diagnostic has been clearly made out, and the case prove one of an adenoid tumour, the attempts at resolution will have no other inconvenience than the being useless; but if they happen to be true cancers, it is certain that the favourable moment for attacking the disease, when local, may be lost. The only circumstances which seem to authorize discutient treatment have a reference, in fact, to certain

vague forms of the disease, forms which may render the operation difficult, at the same time that they yield occasionally to the treatment here discussed, and which without it would continue to increase and to become worse.

To the therapeutic resources mentioned above, it is right to add the blistering plaster, applied in succession to several parts of the surface. It is one of the most useful discutients, the most powerful I know of, when applied over the swollen region, tumefied, hypertrophied, lardaceous, or indurated.

The diseased part is to be covered with it every fifteen, twenty, or thirty days; in the interval, recourse is had to pomades, to discutient plasters: this does not prevent the use of leeches, discutients, internal medicines.

It is useless to repeat that the cancerous nature of the disease being well ascertained, I recommend that no farther attempt at its cure be made by this remedy any more than by any other: moreover, it is quite unequal to discuss adenoid tumours. I apply it simply to hypertrophic swellings or to those of a doubtful nature.

The operation is the only cure for true cancer with any chance of success: even here the cases must be selected; some there are, nearly a half, which must be excepted as being incurable by any means.

By the word operation is meant the destruction by various surgical means of tumours, which may literally be crushed, strangulated, burnt, or extirpated.

Although crushing has been boasted of, attempted even, as is said, with success, it has never seemed to me a method meriting a serious discussal or refutation.

The ligature is in the same case; at the most it may be used in preference for small pediculated tumours. To pass a ligature around the tumour, under the integuments, would evidently be more difficult, more uncertain, than the true operation, or bold cauterization. There remains, then, only the extirpation, which in such a case merits an attentive examination, a distinct article requiring to be devoted to the employment of caustics.

§ IV.—*Manual Operation.*

The operation, properly so called, is named *extirpation*, when a portion of the breast is removed along with the tumour, or the tumour alone. If it be thought useful to remove the entire mamma, it is then called *amputation*. All things being equal, besides, amputation is more serious than extirpation, and ought not to be had recourse to unless it be impossible to act otherwise.

Without having all the gravity, without exposing the patient to all the dangers which the unprofessional world, and many physicians ascribe to it, the removal of cancers of the breast must, notwithstanding, be arranged with the more serious operations of surgery.

It may be performed at any season, only, when it is admissible, it is well to avoid the period of an epidemic, when wounds readily become complicated with erysipelas, hospital gangrene, when the temperature is very warm or very cold.

The operative part varies, besides, according to the number of circumstances, and also according to the taste or doctrines of the surgeon. Thus, the position in which the patient is to be placed, the form, the direction of the incisions, the amount of tissue to be removed, the mode of arresting the hæmorrhage, of dressing the wounds, are far from being the same with all operators, or in all cases.

A. *Position of the Patient.*—No doubt one may place the woman on a chair, or a stool, or in an elbow chair, as I have often seen Richerand do, and some surgeons even now; but this position exposes to syncope, which is extremely inconvenient, in case the operation be tedious or difficult, and has besides no kind of advantage.

The patient should be placed on a bed, somewhat elevated, or on an operating table. Once there, no one proposes now, as Bidloo* did, to place in the axilla a cushion or ball to push the gland forwards, nor to keep

* Sprengel, *Hist. de la Méd.*, t. viii.

the arms apart by means of a stick placed on each side, as S. Cooper indicates.*

Let the head be sufficiently elevated, the side of the tumour be inclined towards the operator, the corresponding arm carried slightly backwards and upwards, let a large coloured cloth or safeguard be passed behind the chest, and brought around under the bosom, to protect the bed and clothes; this is all that is required.

B. *Assistants*.—One attends to the movements of the head and shoulders, another takes charge of the arm, a third secures the pelvis and the arm of the sound side; it is right also to have one to take charge of the instruments, and still another to put the parts on the stretch whilst the surgeon divides them, and to remove the blood with a sponge.

When all is ready, the first assistant places under the nose of the patient, if etherization is to be used, a concave sponge imbibed with chloroform; a handkerchief, a piece of lint, any piece of cloth, may be substituted for the numerous apparatuses invented for this purpose, and for the sponge itself.

C. *Incisions*.—The incisions cannot be arranged in one way in all cases. If, for example, the skin be so altered that it must be sacrificed, it will be required to give them sometimes one form and sometimes another. It is only for tumours free under the integuments that it is sometimes permitted to choose between the different methods proposed. No one now recommends the passing two threads, in the form of a cross, through the tumour, in order to raise it up and remove it by one incision, nor to add to these threads a ligature drawn tight to deaden the tissues, nor to plunge into the cancerous mass, before extirpating it, double hooks or the *bident* of Helvetius, or the forceps or pincers of Harteman. The same remark applies to the circular incision of Dionis, to the circular incision recommended by others, to the T incision adopted by Chopart.

* *Dict. de Chirurgie*, trad. fr., 2d partie, p. 120.

Excepting special indications, the simple incision, whether straight or curved, is the best; or the elliptic incision: the simple incision is preferable when it is proposed to preserve the whole of the integuments; the elliptic when, for good reasons, we intend removing a portion of the integuments along with the tumour.

On this subject we must not lose sight of the nature of the disease; almost constantly, in fact, a portion of the integuments requires to be extirpated with the cancer, whether it be a scirrhus or an encephaloid, a fibro-plastic or a colloïd tumour, seeing that the skin is almost always confounded at one or more points with these kinds of tumours, and it is dangerous not to remove all that is altered. With the adenoids, on the contrary, even when they are large, it is seldom that we cannot detach the integuments more or less well lined with adipose tissue, and as these tumours have nothing malignant in them, there arises no inconvenience from the preservation of all that surrounds them.

If the tumour be small, a straight incision suffices; but if it be large, on the contrary I have long been accustomed to expose it by means of a curved incision, a kind of a semilunar incision: this form, which I have substituted almost on all occasions for the crucial, the incisions in the form of a T, a V, an L, or of a star, is extremely convenient. Taking care to turn the convexity towards the downward inclination, it permits us to expose, without trouble or difficulty, the largest tumours equally with the smallest: there results a wound the most favourable for the escape of liquids, with a flap which falls, as it were, of itself on the lower part of the solution of continuity, whose edges are easily maintained in contact, and whose cicatrix is always reduced to a simple line.

D. Choice of Instruments.—To accomplish the incisions, we no longer use a razor, nor an amputating knife, nor even the bistoury with the broad extremity, invented by A. Dubois. The convex bistoury for the incision of the integuments, the straight bistoury for the remainder of

the operation, are preferable to all the special instruments. It would be wrong, moreover, to ascribe an extreme importance to one kind of bistoury more than to another; let the instrument be but sharp enough, and whatever be the form, it will always suffice in expert hands to terminate the operation.

I have often used the convex bistoury from the beginning to the end of the operation, without on that account finding the operation to be more difficult. In general I employ the straight bistoury from the beginning, that is to say, for the incision of the integuments as well as for the remainder of the operation; all this is, in fact, a matter of taste rather than of necessity.

E. Direction of the Incisions.—The direction of the incisions is another point on which surgeons have differed. Benjamin Bell recommends it to be from above downwards, whilst others place it across. Pempennelle, according to Sprengel, recommends its being made in the direction of the fibres of the great pectoral muscle.

Still, in this matter there is nothing absolute: the situation, volume, form of the tumour, require the incision to be made sometimes in one direction, sometimes in another: if the tumour be longer than broad, the incision ought to be made, of preference, in the direction of its longest diameter; otherwise, the better mode is to give it the direction of the fibres of the great pectoral.

It is also in this direction that the curved incision should be made, whenever the tumour is situated above or below the nipple; if on the inner side, the convexity of the incision should look towards the sternum, or a little towards the umbilicus; above the nipple, the straight incision ought to be parallel to the axis of the body, the convexity of the curved incision will be turned inwards, or outwards, and downwards, according to the size or the disposition of the principal diameter of the tumour.

In conclusion, every care must be taken that one of the extremities of the incision corresponds to one of the

dependent points of the region, so that the fluids may not stagnate in the bottom of the wound in the position which patients naturally assume after the operation. The oblique incision has, besides, this important advantage when we have to do with cancerous tumours, that it permits us to proceed at once as far as is necessary, under the anterior margin and into the hollow itself of the axilla, without any great derangement of the original plan of the operation; the direction parallel to the axis of the body is more favourable than the others for the bringing together the edges of the wound by adhesive plaster, but at present, when we rather use the suture, or the *serres-fines*, this is an advantage of less importance.

To divide the integuments by a semilunar incision, afterwards to glide the instrument from below upwards between the chest and the tumour, in order finally to bring it out from above downwards, between the tumour and the integuments, was a method formerly employed by Ledran, and now deservedly fallen into disuse. No one, moreover, now takes the trouble to mark the intended course of the incisions with ink, or otherwise, before commencing; only it is well to commence by the more depending incision, to avoid being embarrassed by the blood of the first whilst practising the second.

However performed, the assistant ought to make the parts tense in the opposite direction to that towards which the tumour is drawn by the surgeon, so that the skin be not folded nor misplaced by the pressure of the bistoury dividing it. So soon as the integuments are divided on one side, the assistant or the operator draws the tumour in this direction to proceed to the second incision, according to the same rules.

Seized with the fingers, or with a hook, the tumour is afterwards drawn in the opposite direction to that in which the surgeon incises. The operator next carries the bistoury into the inferior incision, then into the upper, which an assistant carefully keeps separate, cleaning it every instant; having reached the chief aspect of the tumour, dissect boldly, whether from below upwards,

or from above downwards, or from one angle to the other, according as it seems most convenient or safest. In order to leave no diseased part, the surgeon satisfies himself, by means of his fingers, of the state of the parts he divides, without ever forgetting that if it be cancerous he must remove along with the tumour a certain thickness of the sound parts.

Finally, when we have to do with a real cancer, I am in the habit of practising the incisions with fewer precautions. A straight bistoury introduced by puncture, enables me to divide at once all the tissues, to the depth of the deep aspect of the tumour, and throughout the whole extent of the parts to be divided. Two similar incisions enable me to include the tumour in an ellipse, and to detach it like a slice of melon. We have thus a simpler wound and operation; but this proceeding is only admissible in the cases where it is proper to remove a great thickness of sound tissues with the diseased.

In the case of adenoid tumours, I frequently also operate by puncture, so as to penetrate at once into the tumour, the surface of which I am not then afraid to reach. Exposed at one of its points, this kind of tumour is soon laid hold of with a hook. I then divide the parts, the filaments which surround it, so as to effect its enucleation pure and simple, without endeavouring at least to remove with it much of the tissues.

This difference in the operation flows naturally from the diagnostic. Presuming the tumour to be an adenoid, the sound tissues may be preserved, and the tumour alone removed. With a tumour of a malignant nature, we should never remain contented with removing merely what *seems* affected: when removed from the body, the tumour ought to be enveloped in non-cancerous parts, in order to have some chance of success.

F. Preferring rapidity to neatness, some surgeons have proposed to *transfix* tumours of the breast—a method recommended also for other tumours of a wholly different character, and occupying an entirely

different region of the body, and which has been frequently and for a long time in use in amputation of the limbs, and especially in the amputation by flaps.

This method, which comprises two varieties, and which I have practised a certain number of times, requires a small knife, or a long bistoury, according to the size of the tumour. Having raised the tumour, to separate it, as it were, from the chest, with the left hand, the surgeon, using his right hand, passes the instrument through and through the tissues, between the diseased parts and the thorax, as if he were passing a seton. This being done, first the bistoury is turned downwards, detaches immediately the lower half of the tumour, to be next brought back into the wound, and so divide by cutting upwards the remaining half of the tumour; the operation is composed of three periods—a puncture, the inferior incision, then the superior incision. Secondly, Instead of thus removing the tumour by these incisions, others divide it perpendicularly into two equal halves, from behind forwards, and afterwards isolate successively the two lobes, separately.

As a general rule, I am no great partisan of wounds made from within outwards, of operations by transfixion; in this way we act always rather in the dark; the edges are never very regular, and we cut either more or less than is required. The first proceeding, for example, causes a considerable loss of substance: in the second, the successive dissection of the two halves of the tumour is neither easier nor more rapid than by the usual method. In fine, as it is always easier to give to the incisions the form, direction, and extent desired when the bistoury is directed from the exterior towards the interior, incisions by transfixion ought not to be preferred, and the vain desire to appear dexterous in the eyes of the assistants, ought to give place here as elsewhere to the security of the operation, to the real interests of the patients.

G. *Examination of the Wound.*—Removed in one way or another, the tumour leaves a wound, every corner of which must be instantly explored with the eye and

finger. If the smallest parcel of the degenerated tissue has escaped, it must be seized without being broken up, either with the fingers, or forceps, or hook, and removed with a single stroke of the bistoury or scissors. In this respect there ought to be no dread of proceeding far; if the disease requires it, the great pectoral muscle must be no impediment to the surgeon; even the slightest appearance of diseased structure must be removed in order to have a chance of success. Only, if a necessity for scraping the bones or cutting out portions of the ribs be felt, there must be no illusion; a relapse then is inevitable, and it would have been better not to have attempted the operation. In speaking of these counter-indications, I have already said enough.

H. *Accessory Tumours*.—In ordinary cases, the operation is thus finished; but there may happen to be accessory or secondary tumours, either in the sub-pectoral hollow or in the axilla. In harmless tumours, if these ganglions are supple and small, they may be let alone; besides, they seldom occur. If they result from a purely sympathetic irritation, they need not be meddled with, even in cancerous cases; for should they continue to grow, or take on later a suspicious character, they may be attacked by a special operation, fearlessly, and without the chance of aggravating uselessly the original operation.

Moreover, the extirpation of secondary tumours may be accomplished in two ways:

1st. If the tumour occupy the sub-pectoral hollow or the axilla, and be not too far from the principal incision, by a prolongation of its external angle it may be exposed, laid hold of, and removed.

2nd. But if a considerable extent of sound tissues intervene, it will be preferable to practise a new incision, independent of the first.

By this latter method, it will be necessary to penetrate more deeply than might be at first supposed, and the incision should be rather long than short. Seized with a hook, and drawn outwards by an assistant, the gan-

glands thus laid hold of must be isolated, whether by means of the bistoury or the fingers, or with the hand of the scalpel, taking the greatest care to avoid the vessels towards the shoulder and the arm especially. As a general rule, I prefer, when it is possible, through dread of hæmorrhage, to detach the tumour with the fingers, to enucleate it, to tear the tissues, rather than to cut.

The diseased glands are occasionally so deeply placed towards the clavicle or brachial plexus, that there would be great danger in following them with the point of the bistoury. It is better in such a case to place a ligature on the pedicle or roots of the gland, to raise it up, and strangulate it. It may afterwards be removed without fear with the bistoury.

I. *Remarks.*—It is useless to remark that the operation just described will require to be modified according to the circumstances of each individual case.

Thus, the curved incision, generally reserved for harmless tumours, must be substituted for the elliptical if, as we see often in aged women, the cancer exists in the sub-mammary groove. A semilunar incision allows us in fact to detach the sound parts from below upwards. The tumour once exposed, is afterwards easily removed, also from below upwards, by means of a second curved incision carried beneath it. We thus obtain a large flap, a kind of apron, which falls of itself on the bottom of the wound.

If a large portion of the mamma has been attacked, it would be better to remove the whole gland than to preserve some of its lobes. Surgeons have even laid it down as a general rule to remove the entire mamma in every case of cancer, however small it may be. I have often heard M. Roux say, that in parenchymatous organs a relapse is especially to be dreaded when a portion has been left. Despite my respect for M. Roux, I do not agree with him in this opinion. Cancers of the testes return as frequently as those of the tongue or mamma; it is the same with cancers of the eye; and yet

in operations on these organs, the entire organ is removed.

If nothing prevent it, it is well to preserve the nipple, especially in women who have not as yet reached the critical period. What remains of the gland may still perform its functions, and the form of the bosom is less disfigured. Without the nipple, on the contrary, the portions of the mamma preserved would be rather hurtful than useful. Having lost their excretory ducts, the milk might become a source of accidents to which it is better not to expose the patient. After the cessation of the menstrual flux, the mammæ tend to become atrophied; having no longer a function to perform, any part may be preserved, whether the nipple has been removed or not.

J. *To stop the bleeding.*—Whatever mode of operating be adopted for tumours of the breast, there is always a flow of blood; the advice to tie the arteries as they are divided, is followed by few surgeons. It delays the operation without any real advantages. It might, it is true, be adopted in case the dissection were extremely tedious; but it is difficult to imagine such a case in respect of such tumours. It is more natural, more convenient, to place the finger of an assistant on each open vessel of some size, until the incisions be finished. The tumour being detached, each bleeding vessel is seized with the forceps. An assistant wipes with a dry sponge rapidly and successively the different regions of the wound, whilst the surgeon, or another assistant, extends and carefully unfolds the lips of the wound. After having tied all the visible arteries, it is prudent to allow the patient to rest a little. During the anæsthesia and the disturbance, whether of the stomach, the heart, or the respiration, which it often causes, the blood occasionally ceases to flow, to reappear afterwards. It is even right, when union by the first intention is to be attempted, to be contented at first with a slight provisional dressing, and to proceed to the complete dressing of the wound only some hours afterwards. One is then more certain that no

small artery escape, and thus to be perfectly secure against hæmorrhage.

Before the ligature of vessels became easy, surgeons were contented with pressure by tinder or styptics, to arrest bleeding after amputations of the breast. J.-L. Petit, Thédén, who recommended these methods, are no longer heeded by any one. At the most, compression may be trusted when the bistoury has divided only a few insignificant arteries; when the wound is to be dressed *à plat* (open—the lips not brought together), little balls of lint (*charpie*), dry, or impregnated with astringent substances, and supported by a suitable bandage, frequently enough suffice.

K. *Torsion*.—With regard to *torsion*, although sufficient in some cases, it merits no preference over the ligature, neither as regards security nor facility. The method has had its day, and runs a chance of being soon forgotten. If, nevertheless, it were considered a matter of much moment to close the wound by the first intention, and but a few vessels had been opened, it would deserve a trial. By its aid, no doubt, the vessels may be obliterated, and no foreign body left in the wound.

In general, the vessels are laid hold of in the order they present themselves to the eye of the operator. Unless directed to them by the jet of blood, the branches of the external mammary are to be sought for towards the axilla, and those of the internal mammary more internally. Should the arteries cease to throw out blood, it is proper to pass over their orifices a sponge, with a certain force, in order to remove any clot or obstruction to the flow of blood.

Under the skin, in the adipose-cellular tissue, the arteries are readily laid hold of. It may be otherwise in the muscular and glandular tissue. It is then advantageous to use the tenaculum. Every artery which throws out its blood in jets ought to be tied or twisted. If from the bottom of the wound the blood flows continuedly or in a stream, if there comes from it only dark or venous blood, and if pressure be suitable, there is no fear of hæmor-

rhage; pellets of lint well applied, and a suitable bandage, secure the patient in such a case from all danger.

Powders, *hemostatic* lotions, ergotine, the water of Binelli, of Brocchieri, of Pagliari, so much boasted of, and in reality so little efficacious, may be tried in such cases, as well as the perchlorate of iron, whose action is in reality less doubtful, without being, I fear, of great practical utility.

§ V.—*Dressings.*

All that has been said of the dressing of wounds generally, applies to those resulting from extirpation of mammary tumours. Here as elsewhere, union by the first or second intention have each been advocated. It may seem strange that the same reasons have been advanced in favour of each method.

A. *Mediate reunion.*—Most of the partisans of the immediate reunion maintain that it is one of the best means for preventing a relapse of cancer. By closing the wound at once, they say the patient is freed from all serious local reaction, from all shock, and she has thus every possible chance in favour of a radical cure. Vacher and several others ascribe the same advantages to the mediate or secondary reunion. To close the wound is to prevent the escape of any deleterious elements which may still remain in the economy. Thus the reproduction of the disease is rather favoured than otherwise. To cure radically, it is better to remove the skin along with the tumour, and to allow the wound to suppurate. I do not believe that such doctrines now merit a serious refutation. The reproduction of cancers depends on the nature of the disease, and not at all on the mode of dressing. It is, then, for entirely different motives that the immediate reunion after the removal of tumours of the breast is to be adopted or rejected.

The mode of dressing is often indicated by the wound itself. If, for example, a large portion of the integuments has been removed, and the patient be thin,

there is no mode left of avoiding the reunion by suppuration. In such a case, a linen, perforated, covered with cerate, is laid over the surface, thick folds of lint are placed over it, and it is then covered with compresses.

When the tumour is large, when the incisions have been prolonged towards the axilla, and when, in place of a solution of continuity with homogeneous edges, there is an anfractuous cavity, a moderate plugging, and reunion by the second intention, is to be preferred. There is scarcely any discussion possible, but in those cases where it is easy to bring the edges of the wound in contact, yet leaving behind them caverns or tissues too much bruised or handled.

Moreover, it is *not* true that the reunion by the second intention, that the plugging itself, occasions, sensibly, more reaction or more pain than the immediate reunion. In general, a wound of the breast left to heal by suppuration, and dressed accordingly, soon ceases to be painful, and is seldom complicated with accidents. The traumatic fever is often scarcely observable. Its contour inflames and swells but little; erysipelas, diffuse phlegmons, inflammations of all sorts, are less to be dreaded. The suppuration, at first abundant, soon diminishes, and the cicatrization, once commenced, proceeds with sufficient rapidity until the healing of the wound at the close of from four to eight weeks.

As regards the pain of the first dressing, it may be avoided in most cases, and rendered very trifling even in the most complicated circumstances. With a cloth perforated with numerous holes, and covered with cerate, nothing adhering to the wound, the first dressing exposes the patient to no more pain than the subsequent ones. In deep wounds, the cerated linen becomes a sort of sac, which prevents the lint from becoming entangled with the wounded surface. At the close of three or four days, so soon as the suppuration is established, the first portions of the dressings ought to be removed; it suffices afterwards to pull gently on the edges of the perforated linen to extract the lint, without causing any tearing or

pain. Supposing the wound so deep, irregular, or anfractuous, or that an escape of blood is dreaded, so that a plugging of the exposed surface be required, it is still possible to prevent the patient from suffering much at the first dressing. To effect this, raise up first the portions of the dressings which have contracted no adhesions with the tissues, such as the bandage, the compresses, and the cakes or folds of lint which are placed externally, and renew and replace these as if the whole had been changed. Next day the pellets of lint may be removed, which being previously moistened with warm water, or softened with pus, may easily be detached.

At the third dressing, it is seldom that the suppuration has not so isolated all the rest that there is no necessity for leaving anything. In fine, there is no occasion to remove by force the lint or charpie placed on the raw surface, and as no danger can arise from allowing it to be separated by decollation, this mode of dressing these wounds may be rendered as little painful as the others. In this respect, then, the union by the first intention or immediate has not the great advantages over the mediate reunion as some surgeons suppose.

B. *The immediate reunion* strikes more agreeably the eye of the non-professional. It gives to the wound an appearance of cure which pleases and which enchants. It looks as if by thus placing the edges of the wound in contact, the patient was about to be cured in a few days, and that the cicatrix would leave but little deformity; but to obtain these advantages, it is but too often forgotten that then the patient and the surgeon play double or quits. If the immediate reunion, if the cicatrization by the first intention take place completely, if the wound thus closed cicatrize without suppuration, there is good reason to be delighted: but this seldom happens. I have met with it only four or five times, twice in man, three times in woman; always after the removal of small tumours; in patients rather thin than fat; where no ligature was required; in short, where the wounds were

perfectly "simple" and of small extent. Beyond this I have always seen the wound suppurate in such a way that it has almost constantly required three, four, or five weeks to obtain complete cicatrization. Besides, in considering the matter more nearly, it may be seen that by secondary cicatrization the wound closes in almost as short a period as by premature reunion: except when very large, the wound thus dressed (*à plat*) is almost always nearly closed at the end of a month or six weeks.

If the reunion be not complete at all points—and it is difficult for it to be so, seeing the differences in density, thickness, vascularity, vitality of the tissues implicated—seeing also that the wound is almost always more or less anfractuous and very uneven—the immediate reunion exposes the patient to dangers which do not occur in the second intention.

Should blood or any of the products of exudation accumulate in a corner, underneath some flaps, an erysipelas may arise in consequence, a diffuse phlegmon, the wound may be changed into a kind of traumatic abscess. Hence pain, heat, fever, an intense general reaction, and accidents which occasionally compromise life. Here is an example, published by myself nearly thirty years ago:—

Scirrhus radiated. Extirpation; reunion by the first intention. Death from diffuse phlegmon.

A country woman, fifty-three years old, strong formed, very fat, entered the Clinical Hospital on the 25th June, 1824. Fifteen months previously she struck the left breast against a table. A small hardness was soon perceptible in the depth of the mamma. Still quite moveable, as if lost in the midst of a great quantity of fat, the tumour is now as large as a fowl's egg. Extirpation was performed on the 30th. The size of the breast admitted of the removal at the same time of a large portion of the sound tissues. M. Roux closed the wound without any difficulty by the first intention. A phlegmonous shoot appeared above the great pectoral and und

the arm-pit on the fourth day. The phlegmon soon reached the clavicle and shoulder as far as the neck. The wound reopens; a blackish fluid pus flows from it in large quantities; adynamia appears, and death takes place in twelve days after the operation.

Vast sinuses or burrows (*clapiers*) which communicated with the wound, had detached the pectoral muscles and great dorsal from their connexions; other shoots or offsets had shot into the adipose tissue, especially on the front of the thorax, and in the sub-clavicular region. As regards the tumour, it was of the branched kind, with a central nucleus of pure scirrhus; there were no traces of cancerous tumours in the viscera.

Comparing together such dangers with the advantages of seeing the wound rapidly closed, I ask if it be prudent to prefer, as a general method, the immediate reunion to the dressing the exposed surface, to the reunion by the second intention? What signifies it, in fact, for the woman to be cured eight days sooner or eight days later of a wound which, after ten or fifteen days, prevents her neither from rising nor going out, which is in fact merely a wound of little importance, if she be by this placed in security against accidents, to which the other mode of dressing exposes her?

I am in the habit, notwithstanding, of attempting immediate reunion on all occasions when the edges of the wound, of a wound which is not cancerous, can be brought into contact. I take care, however, provided I have doubts of an immediate reunion, to leave a free passage for the escape of pus towards the dependent point of the wound.

To conclude, it is a mode of dressing which requires the greatest precautions. It is attempted with adhesive plaster, suture, or the *serres-fines*.

I *With adhesive plaster*.—If the edges of the wound be thick and homogeneous, if it be permitted to fashion the tissues into a peak, as if to remove a slice of melon, strips of gummed diachylon, two centimetres broad (0·7874 of an inch), and rather long, will enable us perfectly to

attain this object. The only serious objections to these strips of adhesive plaster is, that they favour the development of erysipelas. As it is important to place the two halves of the wound in contact, it is often useful to place, either under the strips of plaster or above them, graduated compresses or rolls of lint, so as to obtain a kind of expulsive compression. The ligatures being fixed over a point of the neighbouring skin by means of a fragment of sparadrap, nothing more is required to complete the dressing than to throw over the line which represents the division, a perforated linen rag, covered with cerate, then the cakes of lint, the compresses, and bandage.

II. *With the suture.*—Provided the flaps be supple, thin at some points, and flabby, the reunion is effected better by suture than by the adhesive straps.

Too much neglected since Pibrac, the suture, whether twisted or interrupted, is of real service in the treatment of the wounds here spoken of. It does not expose the edges of the wound as the plaster does, to be displaced or separated. Being in no way obliged to look for its point of support at a distance, it leaves to the surgeon entire liberty as to the rest of the treatment. I have obtained from it results which I could not hope for from any other mode of treatment.

As it bears only on the tegumentary part of the division, and as there is no fear of its yielding or slackening, one may, one ought, in fact, to apply over the external surface of the flaps either compresses of lint or graduated compresses, so as to establish a regular gentle compression, maintaining the two corresponding deep aspects of the wound everywhere in contact.

III. *With the serres-fines.*—A means of reunion which will soon no doubt replace the suture in a number of cases, and which has been recently introduced into practice by M. Vidal (de Cassis), is at present known by the name of *serres-fines*. These little instruments embrace, in fact, the two edges of the wound so well, retain them so exactly in contact without piercing them, that they effect an extremely rapid agglutination. The union of the

tissues takes place so rapidly under the pressure of the *serres-fines*, that they may be withdrawn in twelve hours, in twenty-four hours, or at the most in two days.

The skin not being traversed at any point, wounds thus reunited often cicatrize without the least appearance of suppuration. Wounds thus treated must be left as much as possible without any other dressing, or merely covered with a simple wet cloth; if required, however, graduated compresses may be used, masses of lint, and the compressive apparatus I have already described. If the edges of the wound are thick or lardaceous, if they require a certain force to bring them together, the efficacy of the *serres-fines* cannot then be depended on, and the adhesive plaster or the suture are to be preferred.

C. *Subsequent dressings.*—In whatever way we proceed, if nothing unusual occur, the dressing need not be renewed until the close of three or four days. The strips of adhesive plaster must be left long in their place, if they be not disturbed, and the condition of the wound does not forbid it. Some points of the suture are removed on the second day, and the others from the third to the sixth. They are replaced by strips of plaster, if there be danger of the edges of the wound disuniting, a precaution which is equally useful after the removal of the *serres-fines*.

If pus or other liquids have accumulated, the wound must be opened at some point, and a free escape be allowed to the pathological products. Emollient poultices are then used instead of any other dressing. If an acute reaction take place, bleed from the arm; apply leeches around the wound in case of violent inflammation or a threatening of diffuse phlegmon; mercurial unction, or compresses moistened with elder-tree water, in case of erysipelas or angioleucitis, ought not to be neglected.

D. *Anaplastic method.*—When by the operation a considerable portion of skin has been removed, the partisans of immediate reunion have proposed the borrowing from the neighbouring regions a flap of skin sufficient to cover

the wound. It is, in fact, *anaplasty* or *autoplasty* applied to the loss of substance of the mammary region. Amongst the surgeons who have proposed or practised this method, there are some whose aim simply is to avoid suppuration, to reunite by the first intention, to have a less contracted cicatrix, more supple, less susceptible of excoriations or rents.

Others with loftier pretensions have imagined that in this way the relapse of cancer might be prevented. Anaplasty by decollation of the sides of the wound, by a flap like an apron, by a lateral flap, by opercule, or by the Indian method, has been tried and boasted of in these cases.

I have used anaplasty only after the French mode, either by simple decollation of the sides of the wound, or by means of apron-shaped flaps cut from below and raised up, or from above and laid down on the wound—the anaplasty by sliding or displacement, in fact. I now do not employ the method at all. In order that it should seem necessary, in truth, it is essential that the integuments covering the tumour have been removed with it, and that the operation has left a wound the edges of which it is impossible to bring together. Now this only happens in cases of tumours widely ulcerated, of the diffuse lardaceous encephaloid, of the hard or lardaceous scirrhous *en masse*; all forms of cancer on which I no longer operate. As these kinds of anaplasty, besides, aggravate, complicate, the operation, it is better to do without them; it is still better not to think of removing tumours which might give the idea of employing such means of treatment.

It was M. Martinet who imagined that a flap, cut at some distance from the wound, and brought over it, would prevent the cancer returning.

A certain number of facts have been called in by him in favour of this doctrine, and some surgeons, even in Paris, have followed him, and lent the authority of their names to his views. It is not without some surprise—although for a long time nothing odd in the human

mind surprises me—it is not without surprise, I say, that I have seen such an invention spread in practical surgery.

By what title, I ask, can the transporting a flap removed from the neighbouring regions, secure the patient from a relapse in cancers? If the economy be infected with this cruel disease, of what assistance can anaplasty be? If there remain in the bottom of the wound some germs of cancer, why should the borrowed flap prevent a new tumour from forming? If there exist in the neighbourhood some seeds of the original disease, how should it be that a portion of skin transported into the wound may prevent the development or evolution of secondary tumours?

A man must indeed feel a great necessity for an illusion, or else be gifted with a large share of credulity, to accept what has been said in favour of this supposition during the last twenty years, a supposition unworthy even to be repeated, if a distinguished surgeon of our hospitals had not, like MM. Blandin and Sédillot, proped it up with some new facts. M. Chassaignac refers in this respect to the case of a woman in whom the relapse took place in the neighbourhood of the anaplastic flap, but respected the flap itself.

I ask pardon of my honourable *confrère*, but the fact proves in no way that anaplasty furnishes any protection against a relapse in cancer. He knows as well as I do, that cancers *well operated* on, return rather at a certain distance or in the axilla, or still further off, than in the place of the operation; so that were it true that anaplasty really had the power to prevent the return of cancer in the spot, those operated on would not be in a better position. Moreover, what is there surprising in the fact that new tumours establish themselves rather around the displaced flap than in the substance of the flap itself?

After what we know of cancer, may we not affirm that a scirrhus or an encephaloid, the germ of which has been left in the bottom of the wound, will neither be extinguished nor arrested by such a barrier? No, it is not

by such means that relapse of cancer can be prevented: it is quite time that, once for all, surgeons take a side, remain convinced that the reproduction of cancer after its removal depends on the intimate nature of the tumours, on the local or general modifications they have impressed on the economy, and by no means on the mode of operating, or on the kind of dressing adopted to heal the wound. On this I shall say no more than what I said in 1839, as I have already said on the occasion of M. Martinet's observations:—

The true sometimes may not be like the true.

I say formally, "Anaplasty, whatever be the form, is not a means to prevent relapse after the extirpation of cancers."

§ VI.—*Regimen, or Diet of the Patient*

Whatever be the mode of dressing, the patient must be carried to bed, and remain there at ease, the arms supported by a cushion, and slightly apart from the chest.

If the wound be not of great extent, or if it be very regular, whether union by the first or second intention be proposed, it is not necessary that the patient be kept on too strict a diet: from the first day I allow in such a case *bouillon*, and sometimes even soups (potages). When all goes on well, I give next day soup, and from the third or fourth day, an allowance of bread and eggs, fish, or meat. A stricter diet is not useful, but exceptionally, as in women troubled with indigestion, or in those with vast or complex wounds.

If the operation has caused much distress or agitation, it may be useful to give an antispasmodic draught, or a narcotic in case of acute pains. Drinks need not be offered unless there be thirst, and they may be selected from amongst the mild infusions, as the lemonades or gaseous waters, according to the taste of the patient, the state of the chest or of the stomach.

To proceed to the first dressing next day as Blandin recommended can be of no utility. The doctrine of such dressings never seemed to me to rest on anything

practical; their only object is to allow of an ocular examination of the wound, a curiosity which, in the first place, exposes the patient to movements, to tearing likely to disturb the agglutination, as yet but little advanced. Besides, what do you wish to see?—the local accidents, when they do come, do not arise so soon; the phlegmons, the erysipelas, the angioleucitis, occur only after three, four, or five days. If anything serious were to establish itself so soon, the surgeon would be warned of it by the fever, by pain, by an unusual reaction; it is not in any way necessary to raise the apparatus merely to know that nothing unusual is forming under the bandage, or that the seat of the operation is becoming inflamed.

The best that can be said in favour of this method is that it may be resorted to without great danger, that consequently it does not merit being blamed, nor praised, nor discussed at length. In this respect, in addition, the only reasonable rule is this;—if nothing particular occurs, the first dressing ought not to take place before the third or fourth day, nor even then, should any effort be made to detach the pieces of lint or linen, whose adhesions have not been completely destroyed by supuration, or cannot by the use of warm water. On the least alarm, on the other hand, you must raise the dressings, free to reapply them according to the rules.

With the *serres-fines* there is, so to say, no dressings, since all that is required is to place over the wound a moistened compress; we see it then daily: it is the same with the suture.

From the time of the first dressing, the wound, as a rule, ought to be examined, cleaned, dressed every twenty-four hours at least. It does not differ from other wounds, and as all that applies to other wounds, following operations, is applicable to these, it is unnecessary for me to dwell longer on the subject.

§ VII. *Accidents.*

In simple cases the patient operated on for a tumour of the breast is scarcely ill; after the first week she may

quit her bed some hours daily. I have seen some who recovered their strength and healthy looks in fifteen days. Nevertheless, the cure is seldom complete in less than a month, and extends often to six weeks. The wound generally closes in from three to six weeks, seldom less, rarely more; but accidents occur sometimes to obstruct the cure, and to give to the results of the operation quite another physiognomy.

A. *Inexplicable cases of death.*—I have seen, after extirpation of tumours of the breast, women die in three days.

One of them, a strong, robust country woman, came to me from the neighbourhood of Compiègne, to request me *naïvement* to remove a tumour of the breast, and to allow her to return immediately after the operation! I had some trouble in making her understand that such things were not done so quickly; that it was necessary to enter the hospital, and to remain there. I operated on the second day; it was a scirrhus; the operation was simple. On the same day a shivering, followed by intense fever, and pains in the abdomen, seized the patient, whom I found next morning a prey to a violent peritonitis. The third day this poor woman, who, at leaving home believed that she went to have a tumour of the breast removed as if it were a tooth to be extracted, was in the dead house! In her the death was explained by an evident disease, due to one of those unfortunate coincidences which always astonish, although they are far from being rare in practice; but in the two following cases this explanation is wanting.

A woman who had been brought to me by her physician, Dr. Parent, strong, fat, forty years old, and whom I freed of an encephaloid, not ulcerated, and not so large as the fist, was seized the same day with anxiety, agitation, fever, heat of skin, intense thirst. At the visit next morning I found her a prey to intense anxiety, agitation, to a sort of choking, to an incessant desire to move, to an acute pain of the kidneys, nausea, and vague pains all over the body. The second day delirium came

on; the tongue was dry; the wound, which I hastened to examine, showed nothing particular. Auscultation, percussion, revealed nothing amiss in the heart or lungs; no special lesion could be detected in the abdomen. Nevertheless, the patient died during the night of the third day, and the examination of the body gave us no insight whatever as to the cause of so sudden a death.

Towards the close of 1851, a similar fact again occurred in the hospital. Warned by the preceding observation, I was alarmed this time much more than before, from the beginning, and I informed the students of my fears in the amphitheatre. Like the other woman, this one remained anxious, agitated, hot, tormented with thirst from the night of the operation to the third day, without the occurrence of any acute or other disease. The examination of the body twenty-four hours after death revealed nothing in explanation of the cause of death.

Here, as at first, the death remains a mystery to me. I may add, that these women were quite well before the operation; that they were not more frightened than many others; that their character had nothing of the extraordinary; that the operation was simple; that if too precise a reunion might be blamed in the first, it could not be so in the second. The patient of 1851 was etherized, it is true, but at the period when the other was operated on, etherization had not been invented.

It is almost unnecessary to add, that both were treated energetically. Phlebotomy, leeches, blistering plasters, sinapisms, Seltzer water, acidulated drinks, antispasmodic or opiate draughts, narcotic imbibitions, or emollients applied to the dressings: all were of no avail.

B. Pleurisy.—There take place sometimes in those operated on for tumours of the breast, effusions into the corresponding pleura. These effusions seem to me to originate in two ways. In some persons they establish themselves secretly, without any inflammatory symptom sufficiently serious to excite attention, and as if the pathological condition arose from continuity with the wound. Then, nevertheless, the patient has not remained without

fever. The pulse preserves or resumes its frequency, without ceasing to be small or feeble. If attention be given to it, it may be observed that the woman breathes ill, or that she becomes pale; but as the presence of a wound may in point of fact explain such symptoms, it may happen that the accident escapes notice from the beginning.

Pleuritic effusions are not the less oftener announced by the ordinary symptoms of pleurisy. A shivering, then pain and fever, at first direct attention to it. Sometimes it is the wound itself which, by its proximity, brings on evidently the internal inflammation; at other times, on the contrary, the operation acts merely as a predisposing cause, and the pleurisy has for its occasional cause sometimes a cold, sometimes an error in regimen. This is enough to put the surgeon on his guard so as to take suitable precautions during the time of dressing the wound. I have, moreover, only seen this accident occur after the extirpation of cancerous tumours, when an extensive dissection was required, or in women whose economy had been previously much shaken. It has happened four times in 167 cases in my hospital practice.

Moreover, I do not speak here of pleurisies nor of effusions caused by a purulent infection, by an internal relapse, or by a general infection of cancer.

Besides, the practitioner will find himself placed in difficulties in such cases. The wound interferes with auscultation and percussion. The state of the patient frequently prevents free recourse being had to general blood-letting. The leeches, blisters, are difficult to apply; it is the same with cupping-glasses. Thus these effusions are exceedingly dangerous. They are treated, however, in the usual way, and by insisting in an especial manner on internal medication.

C. The *Phlebitis*, the *purulent infection*, are sufficiently rare after amputations of the breast; I find only five well-marked examples in the course of my long practice, in 235 cases of cancer of which I have notes. I have twice seen a sort of articular and muscular rheumatism at the

same time, after the extirpation of a tumour of the breast. In one of the patients the inflammation ended by resolution, under the influence of two bleedings and mercurial unction, at the end of five days; in the other, there formed in succession three abscesses,—two in the forearm, the other in the fore-part of the leg, but external to the articulation; and the accident had no other result.

D. *Cancerous infection*.—A sufficiently frequent accident, which has the habit of showing itself somewhat later, is connected with the cancerous infection.

It is not of the infection which insensibly establishes itself in the body, and terminates by forming what is called the cancerous cachexia, that I mean to speak first, but rather of an acute accident which occurs before the cicatrization of the wound, usually in the course of the three first weeks. I have seen, three or four times, this infection occur from the tenth to the twentieth day: it comes on with a shivering, slight fever, loss of strength and appetite. The wound which progressed well till then, changes its appearance, becomes grey or wan, enlarges instead of getting less: the face becomes pale and sunken.

If with these symptoms nothing indicates a pleurisy, a pericarditis, or a pneumonia, if there be no evident sign of enteritis, you may be pretty sure that it means the commencement of a general cancerous affection.

The disease continues under the same forms, with changes for the better or worse. Its progress, generally less rapid than that of the purulent infection, conducts no less certainly, still more so, to death. If it grants some weeks of existence to the patient, you may expect to find in the body cancerous masses in one or more of the organs. The general accidents seem sometimes to be quiescent for a moment, when a new tumour establishes itself far from the organ operated on. One would say that the poisonous elements, rejected in some measure from the circulatory system, are deposited there as if to give a truce to the organism. It is thus that the cancerous infection, acute in the beginning, may become

chronic, and bring on death only after some months' duration, whilst the purulent infection is scarcely compatible with life beyond a week or two.

What is to be done under such circumstances? Therapeutics have no power over generalized cancer. All that can be done is to strive against the leading symptoms as long as possible, and to put in practice the medicine of symptoms, to employ the palliatives most likely to benefit.

E. *Erysipelas*.—This is unquestionably the most frequent accident after the removal of tumours of the breast; not that it happens more frequently here than elsewhere, but because it is as it were the sword of Damocles of all wounds, of all operations; it takes place fifty-four times in 235 cases. I have observed several shades of it sufficiently distinct.

When excited by the adhesive plaster alone, the erysipelas has this in it peculiar, that it represents exactly the points which have been covered with the plaster, whilst all the rest of the skin preserves its usual character.

Under this form, the erysipelas is not formidable; it is still but a local affection which often disappears of itself, which becomes extinct in the course of three or four days, which may be cured, at least in a great number of cases, with simple topical applications.

However produced, erysipelas of the breast presents at first the appearance of ordinary erysipelas; sometimes preceded, sometimes followed by fever, it almost constantly assumes a wandering character, and it is this last peculiarity which gives to it especially its danger.

Erysipelas, it is true, is everywhere ambulating or migratory, but all regions of the body do not so readily give way to this character of the disease. In the head, for example, erysipelas takes only about a week to attack all the surface it is to seize on; and after having over-run all the regions of the face or cranium, it often stops without descending to the neck. In the feet, hands, limbs, arms, it ceases readily before reaching the trunk. In the breast

it is not so. There it runs over, little by little, the whole chest, and thus requires occasionally from ten to fifteen days. Nothing prevents it then from passing to the abdomen, shoulders, thighs, arms, or even legs. Nor is it rare to see it ascend to the neck and reach the head.

As it continues generally three or four days in the same place, one may comprehend that if it proceeds by small jerks, or slowly, it may continue a month, or more. I have seen it run over the whole surface of the body in some women, and disappear only after the end of six weeks. All the patients thus attacked do not escape with life from a disease which disturbs so deeply, from the beginning, the whole economy.

Even simple erysipelas is a serious accident, after extirpation of the breast. Besides that it favours pleuritic effusions, it may, as I have seen, become the cause of peritonitis. Appearing in a woman whose organism is already shaken, it meets with less vital resistance than in ordinary cases. Nevertheless, as it continues only for three days in the same place, the vicinity of the wound is generally freed of it in a week. If it does not attack the head, and nothing particular occurs in eight days, we may hope that the patient will recover. In the opposite case, that is to say, after having over-run the chest, and seized on or not, the limbs, the erysipelas attacks the head, everything is to be feared. Weakened, already exhausted, the woman is soon seized with delirium, and speedily dies. Nothing exceeds its severity when, after having attacked several regions, the erysipelas returns or reappears in some of those it had previously occupied, and then abandoned.

The treatment of erysipelas is the same here as elsewhere. If pus or other morbid matters tend to stagnate in some recess of the wound, a free issue must be allowed them, whether by means of incisions, or by separating the lips of the wound if immediate reunion had been attempted, and in substituting emollient cataplasms for all other treatment.

If nothing appears to be confined, it is useless to destroy

an agglutination already commenced. The erysipelas will not be lessened thereby; in three or four days it will be found at some distance. Then it suffices to cover the inflamed surface with compresses, soaked in elder-tree water; unctions, with the mercurial pomade or fresh cerate, are not to be despised when the redness is intense.

A pomade with the sulphate of iron, or cloths soaked in a solution of the same substance, are still the best discutients; but it is best not to be deceived on this point; topical applications give but a feeble aid: it is by the alteration of the fluids, and not as a local disease, that the erysipelas is dangerous. Besides, the wound does not permit the practitioner to act so freely as regards treatment as in the spontaneous erysipelas. The women operated on may not be able to support general bleedings, and experience has shown me the inefficacy of leeches against erysipelas, wherever they may be placed. The condition of the chest forbids the use of emetics; it is, then, to drinks, to the régime, to some purgatives, that one must trust.

The proof that the erysipelas is not dangerous as an inflammation, is, that the more serious cases are often those which appear the least intense. I have seen it continue for several weeks, wander over the chest, and destroy the patients without ever having been in reality red. Reduced to a clear rose-colour, or simply yellowish, the erysipelas was in reality merely characterized by the festooned edge, the very slight relief of its circumference.

An external inflammation, which continues only three days in the same place, cannot in itself be a very dangerous disease; it is, then, to the general shock that the practitioner must turn his attention.

Bronzed Erysipelas.—A form of erysipelas which has not sufficiently fixed the attention, is that which from the beginning shows itself under the form of brownish plates, or of a tint rather bronzed than red or yellowish. The skin, which is its seat, seems much thicker than in

ordinary cases, and the erysipelas causes a considerable *relief* on the surface. The edges are, moreover, exactly festooned and limited. I have observed this variety five or six times after operations on the breast.

It is, as it were, the ordinary erysipelas seen through a microscope. The plates are large from the beginning, and it is also accompanied from the first with a group of alarming symptoms. The pulse becomes very frequent, nausea often exists, the women are agitated, hot, tormented with thirst; they complain of anguish and suffocation; delirium comes on, and if life continues, gangrenous plates appear quickly at several points of the regions attacked with the erysipelas.

A gardener (*female*), operated on by me for an encephaloid of the right breast, at Montreuil, in 1847, was thus attacked on the second day, and with such violence that she died on the sixth. Madame D——, on whom I operated at the Rue Hauteville, during the same year, died in the same way, and in the same space of time. The first of these women was a country woman, well formed, and moderately fleshy; the second was seventy years of age, and tolerably fat.

Both were etherized. I asked myself to which of these conditions, the obesity, age, habits, or etherization, were the troublesome results to be ascribed? but I saw, in 1850, a similar erysipelas in a young woman, moderately fleshy, and who had been etherized by means of chloroform. What is more, I saw an erysipelas of this kind in a man who had undergone the extirpation of a lipoma, and who had not been etherized at all. I know not, then, to what is to be ascribed this singular and redoubtable form of erysipelas. What I know too well is, that it is extremely dangerous, that it kills very rapidly, even when confined to the chest or to the abdomen, and without being able to point out a good remedy wherewith to oppose it.

As a general rule, moreover, the erysipelas, whatever form it assumes, is more dangerous in fat than thin women; after fifty or sixty years of age than in those

Almost all the remedies, all the specifics, all the arcana of these curers, are true caustics. I may be permitted to add that the vogue of caustics depends, besides, a little on this, that those who employ them cannot use cutting instruments. A mode of treatment which requires no anatomical or surgical knowledge, which necessitates no acquaintance with operative surgery, must be preferred by the mass of practitioners to operations which all are not gifted enough to know and to perform.

A. Advantages.—This does not mean, however, that no true surgeons have ascribed to caustics real advantages, and that nothing scientific can be said in their favour.

Destroying the tissues without dividing them, transforming into eschars the parts they disorganize, caustics open no vessels, cause no hæmorrhage, require no ligature of arteries, especial dressings, bandages. If the wound they leave does not cicatrize as the eschars fall, it cleanses itself, however, and becomes cleaner, in general very promptly after the elimination of the mortified tissues.

The absence of divided vessels renders phlebitis and purulent infection less to be apprehended than after the operation. It has been said also that caustics expose the patient less to erysipelas, whether by reason of their peculiar action, or because adhesive plaster is not used. It has even been maintained that they better oppose a relapse than the cutting instrument.

Most of these advantages have not been demonstrated; purulent infection is possible after the use of caustics, as I know well, and they do not prevent erysipelas. The example of one of our young colleagues, removed from science and the profession some years ago by a premature death, would be a striking proof had it not caused so much regret.

In a memoir remarkable in other respects, this surgeon had insisted at great length on the safety of caustics; he endeavoured especially to prove that caustics applied to the treatment of tumours, varices, do not expose the person to erysipelas.

Attacked with a small tumour of a doubtful nature in

the breast, he submitted to cauterization: as if nature had been desirous of punishing his pretension, the caustic speedily produced a shifting erysipelas, soon followed by serious accidents! If other facts were required to remove all illusion in this respect, I could draw a certain number from my own practice. But to what good purpose? Have I not seen, amongst others, in the hospital, the cauterization of a cancer of the occiput give rise to an erysipelas of the trunk? and the cauterization of a steatoma of the hairy scalp in a man, the cauterization of a syphilitic ulcer behind the ear in another, produce the same inflammation? Is it not in some measure the very nature of burns to produce a kind of erysipelas around them?

The purulent infection being sufficiently rare after extirpation of the breast, I could not say, according to my own observations, if caustics expose the patient still less, or cause them more frequently: what is certain is, that they secure no immunity, since I know of at least two examples of this infection during the destruction of a tumour of the breast by caustics.

On a first consideration, one does not comprehend why relapse should be less to be feared after the use of caustics than after extirpation. No theoretical reason can be given in their favour in this respect; and nothing in the practice of those who give a preference to caustics seems to justify or to authorize the admission of such an immunity.

I have often employed caustics, and I have often thought that they preserve the lymphatic glands from secondary cancer better than extirpation. I have twice seen large indurated glands of the axilla diminish signally whilst I attacked a cancer of the breast with caustics; the same happened to some sub-maxillary glands, whilst I treated with caustics some cancroïds of the lip. But, as contrary facts have also appeared in my practice, as I have sometimes seen the same thing after extirpation, it may be that in all this there is merely simple coincidence. The question deserves, however, to be reconsidered, and to be submitted to a more extended experimentation.

B. *Inconveniences*.—If the advantages to be derived from caustics be disputable, there can be no doubt, on the other hand, of their inconveniences. It is sufficiently remarkable that the reason formerly given in favour of caustics can now be turned against them. Their principal advantage, in fact, in the eyes of patients, and on which the curers insisted with extreme complaisance, was the little pain they caused as compared with the operation. In the first place, this is not true; amongst the caustics sufficiently powerful to destroy a cancer, there is none which can do so without causing infinitely more pain than the cutting instrument. But finally, it was a fact admitted by the public, and one was always ill received in maintaining the contrary: it is no longer so now. Patients actually know as well as physicians that etherization allows of the performance of the most serious operations without causing pain.

To remove a cancerous breast requires so little time, that etherization may be prolonged even to the termination of the operation: the action of caustics being prolonged for hours, and even days, there is no room for the use of chloroform; hence it follows that patients now decline the application of caustics through dread of pain, as they preferred them formerly in the hopes of suffering less!

No true surgeon has ever asserted that caustics are to be preferred to the cutting instrument, in respect of tumours not ulcerated, still moveable, more or less profoundly concealed under the integuments. In such a case, their action is always long and unequal; a first application is required to destroy the integuments, then one or more to reach and to destroy the tumour.

The eschars they produce require from eight to twenty or thirty days to be detached. If it should require three or four applications of the escharotic, it is easy to see to what that leads. With the fall of the last eschar, all is not finished; we have now a wound similar to that after the operation, and this wound, whose edges cannot be brought in contact, may not be closed before the end of a month, or even more; so that caustics often require

two or three months to cure a patient who would have been completely freed of her cancer in fifteen days or three weeks.

By the operation it is often possible to avoid any loss of the integuments; it is, at least, always possible to preserve a certain portion of the skin which covered the tumour. It results from this, that the wound may heal by the first intention, or at least that its edges may be remarkably approximated by the secondary reunion.

Obliged, on the contrary, to destroy the teguments quite beyond the roots or the circumference of the tumour, caustics can effect this only after they have in some measure stripped it of its integuments; thus they cause enormous losses of substance, necessarily followed by large scars.

This disadvantage in the use of caustics is especially manifest when applied to a scirrhus, to the radiated or branched scirrhus especially. In this kind of cancer, in fact, the tumour sends out its branches so far, that in order to reach all, the escharotic must of necessity denude a large surface of the chest; whilst by incision, the tumour is easily rooted out, still preserving the sound portions of the integuments.

Thus, with caustics: prolonged pains, acute, repeated, against which etherization has no power; duration of treatment two or three times longer; destruction of the skin beyond the limits of the tumour; cicatrices necessarily large, and more or less disfiguring.

By the bistoury: pain may be avoided, and the cure is often prompt; the integuments may be preserved if they are not themselves degenerated; narrow cicatrices, sometimes linear, and in general little deformity.

C. Real value.—Nevertheless, caustics possess some advantages which cannot be denied them. As they do not give the idea of an operation, they shake less the minds of the patients; they are accepted with more coolness, and with infinitely less effort, than the action of the knife. Mortifying the tissues step by step, they give rise to no effusion of blood, and affect less deeply the

economy than the operation, properly so called. Wounds treated in this way do not require to remain in bed, do not consider themselves as patients. The dressings require little care, and do not absolutely demand the intervention of the surgeon. The wound cleans itself very rapidly in general, and once cleansed, it proceeds speedily towards cicatrization. Without exempting wholly from erysipelas, phlebitis, or purulent infection, as some surgeons have asserted, there is, notwithstanding, some reason for supposing that they expose the patients somewhat less to these troublesome complications than the operation.

It may thus be seen, that as yet nothing can be decisively decided in practice as to the real value of caustics. Proceeding from men of notorious partiality, ignorance, and incapacity, the observations published on this subject prove nothing; and the question of caustics in the treatment of cancers is a question to be re-examined at all points. I have studied them much since 1830. I have not feared, despite the kind of general anathema launched against them, to submit them to a great number of trials in my practice at the hospital, as well as in my private practice; and I see with pleasure that M. Maisonneuve* has done the same on his part.

It results from my experience that they ought not to be rejected absolutely as a curative means. They are preferable to the cutting instrument:—1. When the cancer is ulcerated in places, and broader than thick. 2. Whenever by the cutting instrument there is no room to preserve a part of the integuments involved by the tumour; 3. Whenever the cancer is fungous, exact limits are limited, and that the patient greatly dreads the action of the bistoury; 4. Ulcerated scirrhus, anfractuous and disseminated, may be attacked with caustic more advantageously than with the bistoury; 5. It is the same with cancerous ulcers adhering to the summit of the axilla under the clavicle, in the neighbourhood of bones.

Beyond this, caustics ought not to be employed in

* *Leçons Cliniques*, pp. 54 to 67.

at the special request of the patient or her family, and without forgetting that the facility of their application is the cause why they are recommended and strongly praised by a crowd of practitioners who dare not open a bistoury.

§ II.—*Caustics in particular.*

The caustic substances which have been used are very numerous and very various. All feeble caustics are to be set aside at once. It is not with the nitrate of silver, nitrate of mercury, ammonia, chloride acid, red precipitate, salts of iron, etc., that a cancer can be usefully attacked. Recourse must be had to the concentrated acids, to potassa, arsenic, chloride of zinc, chloride of antimony, etc.

Those who have treated of caustics in a clinical point of view, speak of them generally as if these agents differed from each other only by their degrees of power. In this case it were indifferent which caustic was employed. This manner of viewing the question is entirely contrary to the truth. Each caustic exercises on the tissues its special action; all modify, each in its own way, the organ they touch; each forms a special agent, and may be studied as a particular remedy.

A. Thus, the *butter of antimony*, which is of great power, which destroys profoundly and rapidly the tissues, is but seldom employed, on account of its rapid deliquescence, and because on this account it is difficult to manage it, and to limit its action.

B. The caustic of Vienna, formed of a mixture of nearly equal parts of lime and potassa, and which before being used is moistened in a little alcohol, has the advantage of being easily kept on the parts to which it has been applied, of being confined in a frame of diachylon, or even of lint, and of not spreading much; but it has the inconvenience of exciting rapidly a sanguineous exudation, which raises it up and weakens its action.

Thus the Vienna caustic has appeared to me prefer-

able only to destroy the integuments, and to prepare the way, as it were, for other caustics.

Nevertheless, if the cancer be not too thick, the Vienna caustic sometimes succeeds, despite the ulceration or fungous condition of the tumour. I have used it with some advantage for cauterizing certain cancers, by charging with it a ball of lint, which I fix in the bottom of the anfractuosity, and which may be left there even until next day.

C. *Caustic Potassa* itself is not to be despised in certain cases, whether as used when laid hold of with a pair of forceps, as M. Bourgeois (d'Étampes) seems often to have done, or when formed into stalks like the nitrate of silver, rolled up in tubes or plates of lead. With this substance it is possible to transform the tissues into a kind of soap, by holding it merely on the spot for a few minutes, or by gently and continuously rubbing on the tissues. Only it is difficult to act thus over a large surface, and it must be scraped from time to time to remove the remains of the destroyed tissues, and the crayon of caustic necessarily applied until the whole is complete. But here also, as with the Vienna caustic we have the inconvenience of a sanguineous exudation so that the potassa in stalks or fragments is to be preferred only in small cancers or for cancers profoundly situated.

D. *The solidified Vienna caustic*, known by the name of the *caustic of Filhos*, formed also into cylindrical stalks enclosed in cases or tubes of lead, merits the same praise and dispraise as the potassa, properly so called. All the caustics with a base of potassa have this common inconvenience, that they readily produce a sanguineous exudation when they touch the living tissues.

It is not the same with the nitric and sulphuric acids.

E. *The monohydrated azotic acid*, which destroys rapidly and profoundly, is naturally difficult to manage. I use it, however, sometimes, by dipping a little lint in it, and applying it to the parts to be destroyed by means of forceps. A practitioner of Paris, Rivaille, has made

it even a sort of specific, which he looks on as superior to all other caustics, and which M. Maisonneuve* frequently employs. It is true, that, formed into a sort of paste, by means of linen or tow, lint or wadding, the nitric acid may easily be applied everywhere, and that its action being as it were instantaneous, it ought henceforward to be used more frequently than heretofore.

F. *Black or sulphuric caustic*.—The sulphuric acid is a caustic I have often employed. In the liquid state it would be too difficult to handle. I make a paste of it with saffron. The acid and saffron are to be mixed in a glass mortar, so as to make of it a homogeneous paste, which soon becomes of a fine anthracite black.

The paste ought not to be diffluent, without however being too compact, too thick; it ought rather to be a sort of *bouillie* (pap), which holds readily together. This caustic destroys all it meets with, the sound integuments as well as ulcerated tumours. We lay over them a layer of a variable thickness, according to the thickness of the tissues to be destroyed; and the caustic is left in its place until it be dried up, and transformed into a very hard black or red eschar.

It is proper to leave the whole exposed to the air for four or five hours at least. We obtain in this way an incredible subsidence of the tumour, especially when it is ulcerated, when it is fungous. I have seen cancers, encephaloid funguses, larger than the fist, become shrunk or depressed completely, in the space of twenty-four hours, to a level with the neighbouring surfaces. The eschar soon sinks further, to assume the form of a black dry excavation, as if carbonized, in the place of the tumour.

Instead of causing a flow of blood, this caustic rather represses hæmorrhages; the pain it causes is acute, prolonged, but in general it gives rise to no inflammation nor swelling. Next day, or the day after, the eschar is perfectly dry; the integuments of the neighbourhood, neither red nor swollen, are scarcely more sensible than

* *Op. cit.*, p. 65.

over the sound parts of the body. One would say, in a word, that the patient is cured, and that the eschar rests on a scabium already formed.

The eschar remains thus during from eight to twelve days, then it begins to separate, without being remarkably softened by its circumference, so as to be wholly detached towards the fifteenth or twentieth day. Often enough the contraction takes place at the same time without serious reaction, and the entire wound is completely cured in eight days more.

No caustic has presented me with the same advantages; its action is prompt, energetic, sufficiently profound, as large as is desired; easily limited, without causing any flow of blood; no inflammatory reaction, redness, pain, or swelling in the place or around the eschar after the next morning. One is often delighted to see a vast fungous surface daily pouring out a large quantity of ichorous liquid, transformed in less than twenty-four hours into a black and dry crust, giving rise to no exudation whatever.

Unfortunately, the sulpho-saffronic caustic is often difficult of application; the saffron makes of it so light a mass that it attaches itself more readily to the instrument used to spread it, than to the tissues required to be covered. I hope to overcome this difficulty by substituting the powder of hyposulphur, or carbon, or of amianthus for the saffron, the price of which, besides, is rather high. But I am not satisfied with my efforts, which seem, however, to have succeeded better with M. Maisonneuve. On the other hand, as nothing resists the action of this caustic, it is not easy to confine it to the space to which we desire to apply it. It so rapidly burns lint, linen, plasters, diachylon, that the neighbouring tissues cannot be protected by these substances; to arrest its action we require glass, or earthenware, or porcelain, or, what is more convenient, a roll of soft wax.

Attaching itself at first but very slightly to the tumour, it is almost impossible to fix it upon those organs whose surface slopes, and besides only on

those points which can maintain it horizontally. The necessity of keeping the part cauterized, immovable, and exposed to the air, causes that in children, and with all untractable persons, its employment is not without danger. Perhaps by repeated efforts these disadvantages may be overcome. It would then be, without contradiction, one of the best caustics of the *materia medica*.

G. Chloride of Zinc.—This caustic rapidly acquired a certain vogue or fashion. Much praised in Germany by Haenck, of Breslau, as an excellent caustic for the treatment of cancers, the chloride of zinc was unknown in France in this respect, when M. Canquoin announced to the public that he cured tumours of the breast without operation, by means of a new plaster.

The plaster, of which the author made a secret, was examined by the chemists. M. Trousseau soon explained its composition; it was known then that the caustic of M. Canquoin was formed of chloride of zinc and flour (*farine*) in fixed proportions. Fifty parts of the chloride and one hundred parts of flour, with a little water and mucilage, for example, enable us to form a homogeneous paste, holding well together, extensible, of a brownish or reddish grey, somewhat supple, elastic, and when well made, of the colour of plates of caoutchouc.

This caustic is one of the most energetic. We may by its means destroy or form into an eschar the tissues to a considerable depth. Its action, moreover, may be exactly limited; with a layer of the caustic, two millimetres thick (0·07874 inch), you will produce an eschar of nearly four millimetres (0·15748 inch); for an eschar of one centimetre (0·3937 inch), a plate of caustic five or six millimetres thick is required, and so on, according as it is proposed to act deeply or superficially. It is, besides, a caustic easily handled, whose action is limited exactly to the tissues it touches; which acts, so to say, like a nipping-tool; which may be placed on and fixed to tumours as easily as a piece of sparadrap; which has no tendency to fuse; which is scarcely more diffuent than the most compact plasters;

which, for these reasons, may be applied anywhere, in deep cavities or on anfractuous planes, as well as on prominences and external tumours.

Having no action on the sound skin, or the skin rendered denuded, or the mucous membranes covered with the epithelium, it may be extended, cut, broken into pieces, handled in all ways with the hands, between the fingers, and thus it may be formed or fashioned into any form required, with scissors, as you might do a piece of linen.

Its elasticity, its suppleness, its inalterability by the air, permit of its being kept in the packet or in a paper folio, like a sheet of taffeta or sparadrap. The zinc paste has this additional important advantage: its action becomes completely extinguished in the tissues; there is no absorption; no chance of general poisoning. This is an advantage, which it has in common with the sulphuric and azotic acids, with the chloride of antimony, and the various caustics formed of potassa, explains in a great measure the public favour which the paste of Canquene still enjoys.

Its employment, notwithstanding, presents some difficulties, some disadvantages. Thus, having no action on the epidermis, the chloride of zinc requires that the skin be first denuded. Without this precaution, it would remain indefinitely like an inert leaf, without producing the least alteration of the tissues. Placed on cauliflower-like excrescences, fungous, irregular swellings (*bosselures*), it slides, and is fixed with difficulty; the discharge it causes may also considerably interfere with its action.

It is undeniably one of the caustics which causes most suffering. The pain it gives rise to often continues from twenty-four to thirty-six hours. Firmly imbedded in the paste, the caustic substance penetrates slowly; hence evidently the prolongation of the pain. Most patients to whom I have applied it complain greatly of this, and prefer the employment of the bistoury to a renewal of the application.

Nevertheless, it appears to me deserving a preference

when the object is to destroy the root of a tumour somewhat thick, solid, or wide, and also when we wish to destroy a scirrhus of a certain extent.

After having removed the epidermis by means of a blistering plaster, or destroyed a thin layer of the integuments with the Vienna caustic, a layer of zinc paste, of the size of the tissues to be destroyed, is cut with the scissors into a suitable size and form, and of a thickness in relation to the effect we wish to produce.

This layer or plate of caustic, applied absolutely like a simple plaster, then covered with lint and compresses, is supported by a suitable bandage. Quickly a pain, at first dull, then more acute, then deep, and as if boring, comes on, to cease only at the close of a day or two, unless what remains of the paste be removed.

It is useless to remove the bandage before the expiration of twenty-four hours; the paste is then found reduced to a pulp somewhat resembling crumb of bread; next clean the diseased surface of all the matters which have exuded, or which do not adhere to it, after which it is covered with a simple dressing.

The contour of the cauterized part swells, becomes painful, the seat, finally, of a local reaction sufficiently active. After some days this peripheric activity becomes less, contracting more and more; the eschar does not begin to be detached before the end of eight or ten days, and it is finally thrown off, not unfrequently not before the fifteenth or twentieth day.

If all the tumour has been reached, the wound clears itself, and cicatrizes with rapidity. If some clews or plates of tissue of a doubtful nature remain, they may be attacked in the same way with the zinc paste.

Instead of one part of chloride to two of flour, equal parts may be used, or a fourth only, according as we desire it to act more or less energetically. It is important, moreover, not to forget, that in order to have a zinc paste perfectly suitable and pliable, a dexterity is required which all pharmacians do not possess in the same degree. The best I have procured has always been furnished me

by M. Bouchardat, when this professor was Pharmacia-in-chief at the Hôtel Dieu.

H. Arsenic.—One of the oldest caustics employed in cancer is arsenic. Fusch, of whom Houpeville speaks, employed arsenic in 1594, under the form of a powder, with which were mixed lard and the root of the *serpentaria magna*. Fernel speaks of a mixture of white arsenic and corrosive sublimate, which was also employed to destroy cancers. A number of formulæ, having arsenic for their basis, exist at present as anti-cancerous caustics. The most celebrated or the best known are those of Rousselot, Frère Côme, Antoine Dubois, to which must be added the ointment of Hellemund, the Italian powder, and the powder of Dupuytren.

Dupuytren employed four parts of white arsenic, mixed with ninety-five parts of calomel; but practitioners have not continued to use this caustic, as not sufficiently active, and which, nevertheless, caused most acute pain. The ointment of Hellemund comprises eighty-nine centimes (hundredth parts) of the powder of Rousselot, incorporated with a little of the acetate of lead, laudanum, extract of hemlock, and Peruvian balsam, in thirty-two grammes (494·016 grains troy) of simple cerate. This ointment causes less pain, but it is also much less active than the other arsenical caustics.

The Italian powder, composed of equal parts of arsenious acid, Armenian bole, and slaked quicklime, is a very energetic caustic, which causes violent sufferings and a considerable swelling of the neighbouring parts. In the powder of Rousselot, there are eight parts of arsenic, sixty-four of cinnabar, and sixty-four of dragon's blood.

That of Frère Côme contains sixty-four parts of cinnabar, sixteen of dragon's blood, eight of arsenic, and sixteen of the powder of burnt leather. That of A. Dubois, finally, is a mixture of four parts of white arsenic, sixty-four of cinnabar, and thirty-four of dragon's blood.

These powders, especially that of Dubois, are made into

a paste with saliva, and triturating them at the same time with a spatula. The caustic is then spread like cerate, rather thickly, over the surface it is desired to destroy; then the whole of the caustic paste is covered with a tolerably thick layer of cobweb. We soon have as a result, an eschar, generally of considerable depth, and always bearing a relation to the thickness of the layer of paste employed.

No caustic excites more local reaction than the arsenical; the whole contour of the part reached by it swells, inflames, as if attacked with phlegmon. The pains it causes are besides acute, and there is even in general a smart fever, cephalalgia, and nausea. However, once this first storm has passed over, that is to say, in four or five days, the eschar, at first somewhat moist, dries up, contracts. When the moment of separation comes, it is not unusual to see the wound cicatrize in part, so that the cure is sometimes terminated at the moment when the eschar finally falls.

Of all the caustics, the arsenical is unquestionably the most dangerous. It is perfectly well known now, and had been observed at all times, that a part of the arsenic thus employed penetrates into the blood, and may poison the patients.

Observations quite authentic show that death has happened several times from this cause. Notwithstanding, as in general the quantity of arsenic absorbed is small, and as this caustic is besides excellent, it has never ceased to be employed by some persons.

A distinguished Parisian surgeon, M. Manec, has even endeavoured to bring it into fashion quite recently. The experiments, the observations, already numerous, of this practitioner, have led him to admit already two facts of great value:—1st. That it is in some measure possible beforehand to determine the quantity of arsenic which will be absorbed, according to the mass of the arsenical paste employed. 2nd. That the arsenical paste, as he employs it, and which is in fact only the powder of Frère Côme a little modified, has for the diseased tissues

a sort of affinity, such a predilection for them, that it proceeds to search for them in the midst of the sound tissues, to poison and to destroy them.

"Recommended for superficial cancers, the arsenical paste," says M. Mamee, "may also be employed with success against those which have a considerable thickness. Its action is not merely escharotic, as some have supposed: beyond the eschar, it destroys the morbid tissues throughout an extent of four or five centimetres (1.574 or 1.968 inch) or more. These preserve in the parts not destroyed their proper texture, and are separated from the sound parts by a suppuration, which takes place successively at their circumference.

"What is remarkable is, this powerful remedy, which kills thick pathological parts and of a close texture, applied in equal doses to superficial corroding ulcers, destroys only the morbid part, however thin it be, respecting always the sound parts.

"The accidents resulting from the absorption of too great a quantity of arsenic may certainly be avoided by circumscribing with care the arsenical paste over a surface, which ought never to exceed that of a two-franc piece, whatever be the extent of the disease.

"The quantity of arsenic absorbed in this case disturbs but slightly the vital functions.

"It is by analysing the urine day by day that I acquire a knowledge of the time when a new application of the caustic may be made.

"When the absorption has been rapid, the elimination by the urine ceases from the fourth to the sixth day; it is prolonged to the seventh and eighth day, if the absorption has been slow, as happens when we attack hard scirrhous tumours.

"Thus in eight or ten days at most, after a first application, the excess of arsenic absorbed has been eliminated: the urine contains no more. We may then proceed without fear to a new application, which, limited to the space indicated, can no more than the first give rise to any poisoning accidents."

The good opinion I have of M. Manec's integrity induced me to make trial of his caustic on some patients, but hitherto it seems to me to resemble in its effects the caustic of Rousselot and the paste of A. Dubois, which I have seen him use, and which I have myself tried. Nevertheless, I shall still make further trials of it.

As M. Manec does not dispute the absorption of a portion of the arsenic, practitioners will always dread its use. Whilst using an escharotic substance, I find it more natural to recur to the nitric caustic, to the sulphuric paste, the caustic of zinc, which have not this inconvenience, possess equal energy, cause no more pain, and whose action is as easily limited; which have, in fact, the advantages of the arsenical caustic, without its dangers.

If the author has seen no accidents result from its employment, M. Maisonneuve,* who tried it, has been less fortunate, although he followed carefully the directions laid down by M. Manec. This practitioner has besides observed, as I have done, that a very painful inflammation establishes itself around the eschar, and sometimes at a considerable distance from the cauterized part.

Two properties would render it preferable to every other, notwithstanding, provided they were substantiated. If it were demonstrated, in fact, that arsenic concentrates its action on the morbid tissues alone, it would become the most valuable of all caustics. If, passed into the circulation, it were still to preserve its elective action, might it not afford a chance of reaching the last molecules of the disease, of securing the patient against a relapse, by modifying the whole economy?

I. *Chloride of Gold*.—Chloride of gold dissolved in *aqua regia* has also been spoken of; but Récamier, who at first employed this remedy, ceased to do so, and nobody that I know of uses it now.

Escharotics derived from the vegetable kingdom, such as certain ranunculuses, some euphorbias, the bulb of

* *Leçons Cliniques*, p. 60.

colchicum, &c., have also been tried. A work has just (1852) been presented to the Academy of Medicine by a country practitioner, in favour of a pomade composed of bulbs of colchicum, axunge, and sulphate of zinc, in certain proportions; but these are remedies from which I have obtained no advantages, or rather, which I have employed without any success, and which to all appearance do not deserve a preference to the other caustics already pointed out.

J. To sum up; to destroy a thin tumour, not ulcerated, the Vienna caustic is the best. It is to be encased in a tube of diachylon, and left on the place for ten minutes. If the tumour be thicker, or broad and knotted (*bosselee*), a preference is to be given to the zinc paste, whether the skin be ulcerated or not.

As regards fungous tumours, thick or broad, the sulphuric paste is the best, especially when it is possible to place the part to be cauterized in a horizontal position; that is to say, on the different regions of the limbs and trunk. But it is difficult to apply it in the axilla, around the jaws, eyes, or in the mouth.

Pure potassa, the solidified caustic of Vienna, best suited for anfractuons or deep cancers, wherever it is important to act rapidly, and on a fixed point. I see no reason, unless better informed, to employ the arsenical caustics to the exclusion of the preceding.

K. *Specific Action of certain Caustics*.—As it is not impossible that certain potential caustics determine in the tissues around them some important modification,—as the tissues remaining sound soon react so as to expel what excites them,—as, moreover, it is not impossible after that, that some amongst them oppose better than the bistoury the extension of the cancerous principle,—and finally, they expose the life of the patient to less danger than the operation properly so called, I am far from rejecting their employment definitively.

They are, besides, necessary, in preference to the cutting instrument, when we have to do with new vegetations, plates, or pustules of a doubtful nature, in wounds

or around the wounds resulting from the removal of cancers. One is happy, besides, to have them as palliatives, which they are, for the destruction of cauliflower excrescences, fungous exuberances, which so often grow from the surface of cancers admitting not of operation. If to these indications we add the flat and ulcerated cancers, and those where the women will on no account listen to any operation, we shall thus have a sufficiently numerous series of cancers which demand or permit the employment of caustics. This is enough, as appears to me, to induce reasonable practitioners to study with care this resource, and to justify the few pages I have given to their consideration.

ARTICLE VII.—CONGELATION.

Perhaps something may be made of congelation. Refrigeration, which has been long in use in practical medicine, has been presented under a new form recently by M. Arnott, of Brighton. This physician, who by means of a mixture of ice and sea-salt obtains a prompt and fleeting congelation, informs me that he has treated in this way a great number of inflammations; he maintains that, applied for some minutes to the diseased organ, his frigorific mixture rapidly extinguishes erysipelas amongst others, and the diffuse phlegmon.

By this means also a real local anæsthesia may be produced. I have employed it in the removal of the nail growing into the flesh, in superficial cauterization, in incisions involving only the integuments, punctures, and the excision of certain cysts.

There is no occasion for me to occupy myself here with the various cases in which I have thought it right to try it, with the various experiments I have made, nor with those which, at my recommendation, have been made by MM. Foucher and Béraud, in order to determine the true value of congelation or to extend its applications, nor with the general results it has furnished me with; but I have thought that one might employ it with

certain advantages as a palliative, at least, if not as means of cure, in certain cancers. Since the mixture of ice and salt chills the parts to such a degree as to extinguish rapidly and completely the sensibility and circulation, why not use it to cause certain tumours to mortify? When, after having congealed the tissues for two or three minutes, the refrigerating body is withdrawn, life soon returns; but if the mixture were kept in its place for a quarter of an hour instead of two or three minutes, the mortification would probably be complete.

Everything, then, leads to a belief that cancerous plaques, ulcerated cancerous tumours, vegetations, encephaloid fungosities, might in fact be thus destroyed. In this point of view, the ice and salt would have over caustic an evident advantage; their action being sudden or instantaneous, to *cure the cancer without operation at once, and without pain*, would cease to be the boast of the quack. Although I have employed it in cancers but a very few times, the effects I have obtained from it induce me to think that it ought not to be rejected without further examination.

Four parts of ice well piled up, and one or two parts of grey salt, form a good mixture. The whole is placed in a sac of fine muslin or gauze. Next cover in the part to be frozen with this sac, which is to be placed and displaced continually, to prevent the ice from melting by its contact with the living parts. In the breast the operation requires other precautions. The tumour must be carefully enclosed, as in a frame, with solid rolls of lint or lint, and the cold liquid must be carefully removed as it flows on the neighbouring parts. The frigorific body soon congeals the parts, and the patients complain of a sensation of cold, which soon changes into absolute insensibility.

The parts become white, have a dead look, become hard, and, provided the congelation be continued beyond a quarter of an hour, it transforms the tissues into true eschar, which is afterwards thrown off by an inflammatory reaction. One might apprehend that some difficulty would be experienced in limiting the frigorific

action to the diseased parts; but this difficulty would no doubt be overcome, provided its efficiency were once established. As it suppresses, at least for the time, all flow of blood, the discharge of every sort of fluid, it is a remedy which one may apply, and which I have often applied with advantage, to ulcerated cancers, to fungous encephaloids. Not to exceed the limits of strict observation, I must however admit that congelation, as a substitute for caustics, is a means still to be studied, rather than viewed as a means positively proved.

ARTICLE VIII.—RELAPSES.

After all the accidents have been conjured away, or none have appeared, the wound itself completely cicatrized, the poor woman is not yet entitled to consider herself cured: there remains always the sad prospect of relapses when a true cancer has been operated on.

§ I.—*Preventive Means.*

Practitioners of past ages, and a good number of modern physicians and surgeons, think that it is possible, by means of certain precautions or of a certain treatment, to prevent the return of cancer. Some think this to be possible by means of medicines considered as cures for cancer. Once established, they say, cancer resists; but employed before the commencement of the disease, such remedies prevent its manifestation anew. Others prescribe depurative medicines. All the alterative *tisanes* have had their day. The decoctions of *dulcamara*, of *burdock*, of the *rumex* or dock, of *sarsaparilla*, are daily prescribed with this view. Repeated purgatives, the *jus d'herbe** have at all times had numerous partisans.

A. *Exutoria* (*issues, sétons*).—A very general opinion is, that after the cure of cancer the patient requires an issue. Thus most of those operated on themselves demand the formation of a blistered part, or an issue or seton in the arm.

* A term generally applied to the juice of the plant called *Plumbago Europæa*.—T_h.

It is unfortunately but too true that nothing of all this can prevent the reappearance of cancer. I have seen these resources put in play in an infinite number of women, who, notwithstanding, did not escape a relapse, whilst several of the patients remained cured who had not employed them. There is an illusion here which it may be prudent not to deprive the non-professional of, but which medical men ought to lay aside.

In the actual state of therapeutics, we know of nothing, absolutely nothing calculated to prevent a return of cancers. It is after having tried everything, all the various panacea to no purpose, the various medications proposed at different epochs of science, that I consider it a duty to take from my contemporaries what remains to them of faith in this matter.

B. The only *régime* which has appeared to me at all useful is the following:—I apply from six to ten leeches between the cicatrix and the axilla every fifteen days at first, every month, somewhat later. I give at the same time a purgative every eight days, and two or three cups of an alterative *tisane* daily; the patient takes a mucilaginous or emollient bath once or twice a week. I have fancied that in some women so treated the relapse did not take place, or did so less quickly: but this I fear, after all, is but a conjecture founded on simple coincidences.

C. *Syphilisation*.—What shall I say of a late proposition—namely, that to prevent, nay, to cure cancer, it is sufficient to *syphilise* the patient, to subject cancerous patients to a syphilitic infection? This proposition, proposed seriously in some medical journals, and which they have not feared to discuss in the Academy, has so strange a character that I can scarcely venture to say a few words respecting it.

Cancer has characters so well marked, both in its origin, evolution, material composition, that it is difficult to call in question its special nature. Hence, there is room for supposing, I do not deny it, that a contrary principle exists in nature, and that perhaps we shall some day

meet with an antidote or preservative, as an antidote for small-pox was at last discovered. Thus I am less disposed than any one to reject without examination the efforts made in this direction; but it is not enough that the idea be itself accepted to authorize all the applications, without discernment or judgment. Now, what is there rational in the idea of infecting with syphilis, patients attacked or threatened with cancer?

On what do they build their idea that there is an antagonism between syphilis and cancer? Has it not been proved by numberless facts, that cancer attacks persons who have had syphilis more than once, as well as those who never had it? Who does not know that persons having cancerous tumours are as liable to syphilis as others? What experience can possibly be required, in presence of such results, rendered unquestionable by repeated observation?

A man affected with syphilis is no more safe from an attack of cancer than another.

The patient actually affected with cancer, can infect another with syphilis as readily as another.

Syphilis and cancer, when they coexist, seem to exasperate, rather than to annihilate each other.

These are three propositions the truth of which I have established numbers of times.

If it were a question of a vaccination as completely inoffensive as cow-pox, I should not object to the fanciful experiment; but as syphilis itself can give rise to serious results, it is not proper to inspire hopes in the poor patients, who cannot in truth derive any benefit from such experiments. I again ask if a reasonable man would have the courage to give to a respectable woman a true venereal disease, with the view, sure to fail, of securing her from cancer for the rest of her life?

Thus, as a distinguished Belgian practitioner, M. Fallot, has remarked, the most that could be tolerated, would be a vaccination of this kind around a tumour already existing, with a curative intention.

Syphilisation, with the view of curing or preventing cancer, is, then, a mere chimera, unworthy notice.

Although I more desire than hope to see practice some day in possession of a specific against cancer, I grieve much to see medical men, generally young and full of activity, thus squander away a talent which could not fail to benefit society were they to employ better the resources given them by nature.

D. Definitely, science has as yet no preservative against cancer, or what can surely prevent a relapse.

When it returns, the relapse is far from showing itself at a fixed period. Sometimes a fourth, a half, or two-thirds of the wound may not be cicatrized, when new productions of a bad character attract the notice of the surgeon. Sometimes, on the contrary, the reappearance of the disease may not take place for months or even years after the complete cicatrization of the wound. In the first case the new cancer announces itself often by a kind of plate or greyish fungosity, violet-coloured, of a grained aspect, which divides in the middle the natural granulations, the solution of continuity. One, two, three, or a greater number of these plates show themselves, either successively or together, to proceed independently, or soon to become confounded. After the cure, new cancers show themselves behind the cicatrix, or towards its angles, or external to its edges; often, also, they are small disseminated masses, a seed plot of small scirrhous or encephaloid pustules, which appear on or under the neighbouring skin.

If there already existed, at the time of the operation, some enlarged glands, either in the axilla or at the root of the neck, they acquire a remarkable development, in general only at the end of some weeks, or even of several months in some women.

With regard to the relapse by general infection, it often happens only after a year or two. Madame B—, already mentioned (page 259), was attacked with cancer of the liver only after three years. In Madame S—, in whom at first the operation had an unlooked-for

success (page 196), and whose health remained so good for a year, there appeared first a cancerous gland above the left clavicle, then, in three months, an enormous tumour in the liver, whilst all the important functions of the body were seriously disturbed.

§ II.—*Curative Means.*

Since science knows not how to prevent the return of cancer, and is equally ignorant of any preservative against this cruel disease, is it possible still to free the patient of it by a new operation? In the face of a relapse it would be mere simplicity to reckon on the efficacy of the medications, local or general, pointed out in the preceding chapter; and we thus find ourselves reduced to the alternative of a new operation, or of a treatment purely palliative.

What has been said against an operation in the first instance, applies with much more force when a relapse has taken place. With those who consider cancer as a symptom of a general disease, a relapse is a proof of their doctrine admitting of no reply. I will only add, that relapses of cancers are no certain proofs of a general infection, so long as they occur only around or in the neighbourhood of the cicatrix, in the region occupied by the first tumour. Small cancerous tumours may so readily escape the operator, and remain lost in the sound tissues, that the appearance of a new tumour is a natural fact which cannot in any way surprise the practitioner. Thus I have always been of opinion that the operation is quite as applicable to secondary cancers as to primary. I make one reservation, however, which is, that the tumour or tumours be moveable, easy of extraction, and that the woman has no symptom of a general infection.

With these precautions, I have cured radically, women after three successive operations, and some after a second. Here amongst others is a remarkable example:

Encephaloïd tumour; extirpated thrice, and cured radically.

In 1841, I was called to attend Madame V——, in the street Saint Georges. This lady was fifty-six years of age, large, stout, well-formed, very excitable. She informed me that a year before one of my colleagues of the hospitals of Paris had removed a tumour of the right breast, and that in a short time after the cicatrization of the wound, a second tumour appeared. The new tumour occupied the inferior and external edge of the cicatrix. It was of the size of a large fowl's egg, with a broad base; its summit had the form of a globular irregular swelling (*bosselure*), or of the head of a cake. It was red and fluctuating; venous arborizations covered the surface, and were lost by their root in the rest of the region. This irregular swelling (*bosselure*) rested on a plate somewhat doughy or œdematous, sufficiently firm, as if lardaceous, which was continuous with the glandular tissue under the cicatrix; towards the chest it was perfectly moveable. The axilla was free, and no other tumour appeared elsewhere. The tumour removed a year ago had been preserved. It was formed of a central focus, of an encephaloïd appearance, and of a lardaceous mass, which served as a covering or shell to this focus. The whole appeared besides to be enveloped in a thick layer of sound tissue, so as to lead to a belief that nothing diseased or altered had been left in the spot. This examination, it is true, caused me to fear the result, but the excellent constitution of Madame V——, and the limits, still circumscribed, of the disease, did not allow me to hesitate. I recommended a second operation, which I performed eight days afterwards.

The tumour was removed, like a slice of melon, in an ellipsis of sound tissue. An abundant suppuration came on, and the cicatrization required six weeks. The tumour removed had all the characters of the encephaloïd. Softened, medullary, red, vascular in its external protuberance, it was lardaceous, homogeneous, brownish, in places continuous throughout with the thick layer

of mammary tissue which I had removed at the same time.

Eighteen months after this operation, Madame V—— requested me to see her again; a third tumour had reappeared in the right breast. This new tumour showed itself at five centimetres (1·96854 inch) above and external to the last cicatrix, in front of the anterior margin of the axilla. Somewhat less than the last, it resembled it, however, in all other respects. The cicatrices had remained untouched; as yet nothing existed in the axilla. The general condition was no more altered than previously; no symptom of cancerous cachexia had appeared; we thought, therefore, (M. Marc Moreau and myself,) that it was still right to attempt a third operation. This operation, which the patient agreed to with resignation, and which she supported with great courage, was moreover simple, and very easy. The natural *embonpoint* of the patient and the suppleness of the sound tissues allowed us to bring the edges of the wound in contact. Six weeks were required to complete the cicatrization, which moreover took place without any serious occurrence. This time the cure has continued; there has been no relapse. I have seen Madame V—— annually, and she has long ceased to dread any return of her disease of the breast. Even now, 1853, she continues quite well. It is scarcely necessary to add that the last tumour exactly resembled the others in anatomical composition and texture, as well as in its clinical appearances.

M. Roux* says that he succeeded once after six relapses.

Even when we do not obtain a radical cure, it would still be useful in certain women again to remove the cancer. I have thus prolonged life in some for a considerable number of years. A lady of Brest, operated on for the first time in 1842, three years later by Foulloi, came to Paris in 1845, when I operated for a fibro-plastic

* *Bulletin de l'Acad. de Médecine*, t. ix. p. 595.

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cancer, situated on the old cicatrix. Well cured of this third operation, the patient returned to Brest, from whence she again visited Paris, two years afterwards, with a new tumour, which I easily removed and cured. In 1852, she underwent the operation for the fifth time, and her general state is such as not to destroy all hopes even yet of a radical cure.

It is incontestable, at least, that this woman would have died six or eight years ago, but for these successive operations.

Madame H—— (of Besançon), has returned home after the fifth operation in the space of five years. Her first tumour was of an encephaloid nature, as was the second and following. The wounds after operating cicatrized well, and the general health became each time better, at least for some months; so that without these repeated operations the patient would certainly have died three or four years ago.

Amongst the patients in the hospital, there is one who has undergone the operation seven times. Twice in the breast, twice in the sub-pectoral groove, thrice in the hollow of the axilla. She came of herself, demanding the assistance of the surgeon; and thus regaining strength, her existence has been prolonged for more than six years.

Now, especially when pain can positively be avoided, the operation ought to be proposed, ought not to be refused to patients who demand it, under circumstances like those described above. It is not the less true, that the chances of a recovery by operation after a relapse are less favourable than after the first operation, all things being besides equal. If the relapse shows itself under the form of vegetations, of fungosities, at the bottom or on the surface of the wound, the employment of caustic is to be preferred. In such a case the sulphuric caustic or zinc paste deserve a preference.

After the fifth operation, Madame H——, of whom I have said a few words above, saw the cancer return under the form of a fungus, which speedily acquired the size of the head. No longer venturing to employ the knife, and

yet anxious to remove from the poor patient such an enormous focus of infection, I had recourse to the sulphuric caustic. Attacking the tumour by portions, by reason of its vast size, I destroyed it wholly by four applications. We required to go even to the bones; the wound in cicatrizing, curved the thorax forwards. This was in the month of March, and Madame H—— remains at present, simply troubled with a sort of *cautère* (issue) in the bottom of the cicatricial excavation (December, 1853).

The caustic of Vienna is too diffuent, gives rise too readily to a flow of blood, to be applicable to such a case.

Provided, however, that the tumour were globular and moveable, it is better, if it be not ulcerated, to extirpate it with the knife.

The bistoury, also, is to be preferred, even when ulcerated, provided it be not flat and broader than thick.

A Mrs. B——, on whom I operated for the first time in 1850, with the knife, and thrice since, sometimes with the bistoury, sometimes with the sulphuric caustic, continues alive, and seemingly well, with a kind of small issue in the hollow of the axilla.

The operation, besides, requires the same precautions, the same arrangements, and same operative steps as in the case of the original tumour. It is right also to remark, however, that in general the patient is less and less affected by the operation according to the number of times she has undergone it; one would almost say that the economy has become accustomed to it, and that it acts in some measure at last, on the organism merely as a local and passing injury.

Years.	Varieties.	Age.	Profession.	Seat.	Date of Appearance.	Causes.	Complications before Treatment.	Treatment.
1824	Radiated .	53	Journeywoman	Left B.	—	Contusion	—	Extirpation
"	Id. .	48	—	—	2 years .	—	—	Id.
"	—	35	—	Right B.	15 months	A blow .	Tumour in the axilla	Id.
1826	—	58	—	Left B.	13 months	—	Id. . .	Id.
1831	—	60	—	Id.	—	—	Id. . .	Id.
1835	—	58	Lab. woman .	Right B.	2 years .	A blow .	—	Id.
"	Lardaceous .	41	Cutleress . .	Left B.	Some months.	—	—	Id.
"	—	46	Domestic . .	Right B.	—	—	Tubercles in the left breast	Mercury & compression
"	—	38	Id. . .	Left B.	8 months .	A blow .	—	Extirpation
"	—	24	Id. . .	Id.	8 months .	—	Engorgement of the breast	Id.
"	—	37	Washerwoman	Id.	—	—	Ulcerated . .	Paste of the of zinc.
1836	Ligneous .	47	Sempstress .	Id.	—	A fall .	Tumour in ax.	Extirpation
"	—	72	Domestic . .	Id.	15 years .	—	Ulcerated . .	Id.
"	Lardaceous .	40	—	Right B.	2 years .	—	—	Id.
"	—	60	—	Left B.	6 months .	A blow .	—	Id.
"	Lardaceous .	58	Embroideress .	Id.	5 months .	—	—	Id.
"	—	44	Labourer . .	Both B.	8 months .	—	—	Id. (le
"	Ligneous .	56	Glove-maker .	Left B.	—	—	—	Id.
1837	Id. .	70	—	Id.	5 years .	—	—	Id.
"	—	28	Chamber-maid	Right B.	—	—	—	Id.
"	Lardaceous .	50	Cook	Id.	10 months	A blow .	—	Id.
"	—	61	Domestic . .	Left B.	—	Blows, repeated.	—	—
"	In mass and dissem.	48	Sempstress .	Id.	—	—	—	Extirpation
"	—	47	Country lab. .	Id.	1 year . .	A blow .	—	Id.
"	—	72	Nurse	Id.	—	—	—	Id.
"	Branching .	44	Sempstress .	Id.	16 years .	—	—	Id.
"	—	47	Housekeeper .	Id.	—	Blows, repeated.	—	—
"	Branched & general.	—	Cook	Right B.	—	—	Tub. scir. dis. engorg. axill.	Extirpation
"	—	39	—	Left B.	22 years .	—	Phthisis pulm.	Id.
"	—	48	Draperess . .	Id.	—	—	—	Id.
1838	In mass . .	36	—	Id.	—	A blow .	—	Frictions with iod. of lead
"	—	37	Washerwoman	Id.	—	—	—	Chl. of zinc p.
"	In plates . .	43	Grape-gatherer	Id.	—	—	—	—
"	—	40	Domestic . .	Right B.	4 years .	—	Ulcerated . .	—
"	In mass . .	53	Day-labourer .	Id.	—	—	Axill. engorg. .	—
"	—	61	Washerwoman	Id.	—	A blow .	—	—
1839	Lardaceous .	40	Sempstress .	Id.	1 year . .	—	—	Zinc paste
"	—	—	—	—	—	—	—	Extirpation
"	In plates . .	47	Cook	Left B.	9 months .	—	Ulcerated . .	—
"	—	36	Tailoress . .	Id.	1 year . .	—	Id. . .	—
"	Ligneous .	54	Vintager . .	Right B.	—	—	Axill. Engorg.	—
"	Lign. in mass	30	Sempstress .	Left B.	—	—	—	—
1840	—	50	Labourer . .	Right B.	4 months .	A blow .	Tumour in ax.	Extirpation

Lesions by treat.	In Hospital.		Termination.	Relapse.	Pathological Anatomy.	Births.	Observations.
	Com- plete.	Since Treat- ment.					
ad gmon.	—	12 d.	Death (diffused phlegmon.)	—	Char. of scirrhus. Traces of cancer in the viscera.	—	
—	some months	—	Death . . .	—	No cancer in the viscera.	—	Weight two pounds.
—	—	—	Id. . . .	—	—	—	Died in consequence of the cancerous affection.
—	32 d.	—	Cure	—	—	—	No relapse.
—	—	—	In the way of cure	—	—	—	The size of an egg.
—	75 d.	49 d.	Cure.	—	—	—	
—	36 d.	—	Incomplete cure	—	—	2	Of the size of an egg.
—	20 d.	—	Same state . .	—	—	—	Very extended in sur- face.
palas gmon.	21 d.	10 d.	Death	—	Abs. & fib. body in the chest.	—	Of the size of an egg.
—	77 d.	73 d.	In the way of cure	—	Pus in the lacteal ducts, with scirr. induration.	1	
—	2 d.	—	Same state . .	Relapse	—	6	Incurable.
—	52 d.	40 d.	In the way of cure	—	—	5	
—	34 d.	31 d.	Cure.	—	—	—	
—	17 d.	14 d.	In the way of cure.	—	—	—	
ipalae .	59 d.	51 d.	Incomplete cure	—	—	8	Size of the fist.
L .	39 d.	33 d.	Cure	—	—	—	Id.
L .	40 d.	36 d.	Id.	—	—	—	
—	10 d.	—	Cicatrizing . .	Relapse	—	6	Caustic applied un- successfully.
—	—	2½ m.	Cure	—	Char. of scirrhus.	—	Death seven years after, no relapse.
ansa .	48 d.	45 d.	Id.	Relapse.	—	—	
—	28 d.	14 d.	In the way of cure	—	Lardaceous tissue.	—	
orrhage	2 m.	50 d.	Cure	—	—	—	Of the size of an egg.
unic nptoms.	—	—	Death.	—	—	—	
abscess	57 d.	49 d.	Cure.	—	—	—	
—	5 d.	—	Same state . .	—	—	—	Incurable.
—	6 m.	100 d.	Cicatrization .	Relapse	—	1	Relapse in the right b.
ipalae .	45 d.	40 d.	Cure	—	—	1	Of the size of the fist.
—	74 d.	66 d.	Id.	—	—	1	
—	26 d.	16 d.	Death . . .	Softened tubs. in the lungs & mesen- tery.	—	—	A reddish sanies by the nipple.
—	1 d.	—	Same state . .	—	—	—	Incurable.
—	4 d.	—	Id. . . .	—	—	1	No operation.
—	1 m.	—	Id. . . .	—	—	—	Incurable.
—	3 d.	—	Id. . . .	—	—	—	Inoperable.
—	—	—	Id. . . .	—	—	1	Id.
—	3 d.	—	Id. . . .	—	—	—	Id.
ipalae .	—	32 d.	Death.	—	—	—	
—	30 d.	24 d.	Cure	—	—	Some children.	
—	1 m.	—	Same state . .	—	—	—	Incurable.
—	4 d.	—	Id. . . .	—	—	—	Id.
—	5 d.	—	Id. . . .	—	—	—	Id.
—	75 d.	—	Cure.	—	—	—	
abscess	7 w.	—	Id.	—	—	—	Size of an egg.

Years.	Varieties.	Age.	Profession.	Seat.	Date of Appearance.	Causes.	Complication before Treatment.
1840	—	48	—	Left B.	—	—	Ulcerated .
1841	M.	46	—	Right B.	Some months.	—	—
"	—	47	Agriculturist .	—	—	—	—
"	—	38	—	Right B.	—	—	Ulcerated .
"	In mass . .	47	Greengrocer .	Left B.	—	—	Axill. engorg.
"	Id. . . .	52	Cook	Right B.	—	—	Axill. tumour .
"	Ligneous .	32	Domestic . .	Left B.	—	—	—
"	—	43	—	Right B.	—	—	Axill. tumour .
"	—	48	Linen-maker .	—	—	—	Infl. of arm .
1842	—	45	Colourist . .	Left B.	9 months .	A blow .	Extend. into ax
"	—	40	—	Id.	—	—	Axill. engorg. .
"	Branching .	58	Fruitress . .	Right B.	8 months .	—	Extending to a distance
"	—	64	Mattress-maker	—	—	—	—
1843	—	38	Linen-maker .	—	16 months	—	—
"	—	65	—	Right B.	—	—	Gangrene . .
"	Ligneous .	52	—	Left B.	9 months .	—	—
"	Branching .	42	Shopkeeper .	Id.	9 months .	—	—
"	—	72	—	Right B.	—	—	Ulcerated . .
"	Branching .	44	Day-labourer .	Id.	10 months	—	—
"	—	53	—	Id.	5 years .	—	Ulcerated . .
1844	—	49	—	Id.	12 months	—	—
"	Lign. in mass	72	—	Left B.	9 months .	Mother died of cancer of the breast from a blow.	—
"	Ligneous .	41	Cultivator . .	Id.	18 years .	—	—
"	Ligneous .	56	Id. . . .	Id.	10 years .	Blow & fall.	Scirrhus, tuberculous.
"	In mass . .	62	—	Right B.	—	—	Ulceratd. Axilla engorgement.
"	Scirrhus encephaloid.	40	Grape-gatherer	Left B.	1 year . .	—	Tum. dissem.
"	Ligneous .	35	—	Right B.	2 years .	—	Axill. Tumour .
"	Ligneous .	62	Domestic . .	Id.	1 year . .	Blow .	Id. . .
"	Scirrhus encephaloid.	45	—	—	—	—	—
1845	In mass. lign.	55	Labourer . .	Left B.	5 months .	—	Tumour in axil.
"	—	59	Id. . . .	Right B.	—	—	—
"	—	40	Linen-maker .	Id.	1 year . .	—	Axill. gangl. .
"	2 Scirrhus .	—	Tobacco-lab. .	Id.	—	—	Tumour in axil.
"	Ligneous .	40	—	Left B.	3 years .	—	Ulcerated, phthisis
"	Id. . . .	49	—	Both B.	—	—	Axill. gangl. engorg. Tum. of arm.
"	—	52	—	Right B.	3 years .	A blow .	Axill. gangl. engorgement.
"	Ligneous .	51	Cook	Id.	5 years .	Id.	—

Disease.	In Hospital.		Termination.	Relapse.	Pathological Anatomy.	Births.	Observations.
	Complete.	Since Treatment.					
	3 d. . .	—	Same state . .	—	—	—	Incurable.
	6 w. . .	—	Cure	—	Carc. scirrhus .	Several children	Of the size of an egg, no relapse.
	22 d. . .	—	In the way of cure.	—	—	—	—
	—	—	—	—	—	—	Incomplete observation.
	7 d. . .	—	Same state . .	—	—	—	Incurable.
	11 d. . .	—	Id. . . .	—	—	—	Id.
	11 d. . .	—	Id. . . .	Relapse	—	—	Id.
	1 d. . .	—	Id. . . .	—	—	—	Id.
	1 d. . .	—	Id. . . .	—	—	—	Id.
	30 d. . .	35 d. .	Cure	—	—	—	Size of half the fist.
	36 d. . .	30 d. .	—	—	—	—	Incomplete observation.
	34 d. . .	29 d. .	Cure	—	Encephaloid scirr.	—	—
	3 d. . .	—	Same state . .	—	—	—	Mental derangement, no operation.
abscess	19 d. . .	16 d. .	Cure	—	—	—	Of the size of a nut.
	30 d. . .	20 d. .	In the way of cure.	—	—	—	—
	45 d. . .	40 d. .	Id.	—	—	—	Of the size of a small apple.
relapse	—	—	—	—	—	—	Observation not completed.
	38 d. . .	28 d. .	In the way of cure.	—	—	—	Relapse after the fall of the eschar.
pleurisy, arthritis.	18 d. . .	9 d. .	Death.	—	—	—	—
	—	—	Same state.	—	—	—	—
	8 m. . .	—	Cure	—	—	—	No relapse.
	14 d. . .	—	Same state . .	—	—	—	Comprising all the breast.
	1 d. . .	—	Id.	—	—	4	Reddish liquid by the nipple, inoperable.
	9 d. . .	—	Id.	—	—	—	Inoperable.
Erysipelas.	29 d. . .	21 d. .	Death (erysipelas)	—	—	—	Comprising all the breast.
	5 d. . .	—	Same state . .	—	—	4	Inoperable.
	23 d. . .	—	In the way of cure	—	—	3	—
Pleur.	—	22 d. .	Death (pleurisy)	Relapse	—	—	Relapse before admission, inoperable.
	—	—	Same state . .	—	—	—	—
tubercle.	67 d. . .	75 d. .	Cure	—	—	—	—
	23 d. . .	—	—	Rel. A.	—	—	Inoperable.
	26 d. . .	19 d. .	Cure	—	—	4	—
	16 d. . .	—	Same state . .	—	—	—	No operation.
	6 d. . .	—	Id. . . .	—	—	—	Id.
	1 d. . .	—	Id. . . .	—	—	—	Id.
	7 d. . .	—	Id. . . .	—	—	—	Id.
	3 m. . .	—	In the way of cure.	—	—	—	—

Years.	Varieties.	Age.	Profession.	Seat.	Date of Appearance.	Causes.	Complications before Treatment.
1846	Branched .	50	Domestic . .	Left B.	3 years .	—	Ramification towards axilla plexus. Ste num, hypochon Ulcerated.
"	—	52	Lady	Id.	3 months .	Mother dead, canc. in breast; sister dead, canc. in uterus: blow.	—
"	Lardaceous .	52	—	Right B.	2 years .	—	—
"	—	59	Labourer . .	Id.	18 months	—	Ulcerated Gang enlargement.
"	Ligneous . .	50	—	—	10 years .	—	Ulcerated .
"	In plates . .	40	Milkmaid . .	—	—	—	—
"	In mass . . .	42	Domestic . .	Right B.	Some years	—	Tum. in axilla
"	—	38	—	Id.	—	—	—
"	—	78	—	—	Some months.	—	—
"	In mass . . .	46	—	Left B.	3 years .	—	Tuberc. scirr Engorgemet ganglion.
"	Radiated . .	43	Housekeeper .	Id.	Id.	A blow .	Ulc. Engorg ganglion.
1847	—	—	—	Id.	5 years .	Id.	—
"	—	58	—	Right B.	Some months.	—	Tuber. scirrhu
"	Lardaceous .	55	—	Left B.	4 years .	—	—
"	—	60	Shopkeeper .	—	—	—	—
"	Ulcerated scirrhus.	35	—	—	10 months	—	—
1847	—	52	—	Left B.	—	—	—
"	—	52	—	Id.	—	—	Axill. ganglion enlargement.
1848	—	61	Wire-drawer .	Id.	—	—	—
"	In plates . .	41	Linen-maker .	Id.	8 years .	A blow .	Axill. tumour
"	2 Scirrhus . .	44	—	Id.	3½ years .	—	—
"	Lardaceous .	48	Breeches-maker	Id.	5 months .	—	Axill. tumour
"	—	45	Id.	Id.	3 months .	—	Axill. engorg.
"	—	49	Washerwoman	Id.	—	—	Id.
"	—	48	Porteress . .	—	—	Blow .	—
"	—	37	Innkeeper . .	Left B.	18 months	—	—
"	In mass . . .	52	—	Id.	Some years	Violent blow.	Canc. tubercle of the skin.
"	Ligneous . .	51	Porteress . .	Right B.	3 years .	—	—
"	—	49	Sempstress .	Left B.	—	—	—
"	—	48	Breeches-maker	Id.	—	—	—
"	—	50	Sempstress .	Right B.	Some years	—	Axill. engorg.
"	—	48	Breeches-maker	Left B.	—	—	Axill. engorg.
"	—	54	Servant . . .	Id.	—	—	—
1849	—	49	Sempstress .	Id.	—	—	Axill. tumour.
1850	—	42	Id.	Id.	6 months .	—	Axill. engorg.
"	—	38	Servant . . .	Right B.	2 years .	—	Scirr. tumour of Axilla.
"	Ligneous . .	46	Shopkeeper .	Id.	—	Blow .	Nucleus in ax
"	Lardaceous .	58	Linen-maker .	Id.	6 years .	—	Axill. tumour
"	—	34	Labourer . .	Id.	4 years .	—	Abcess .
"	—	45	Shopkeeper .	Left B.	3 months .	Blow .	—
"	—	44	—	Id.	—	—	—

Applications after treatment.	In Hospital.		Termination.	Relapse.	Pathological Anatomy.	Births.	Observations.
	Com- plete.	Since Treat- ment.					
ulcerous infection.	15 d.	11 d.	Death (puru- lent infiltra- tion.)	—	Purulent effusion into chest.	—	
ulcerous septicaemia. venitis.	16 d.	9 d.	Death (pneu- monia.)	—	Pneumonia. Phrenitis.	—	
—	25 d.	21 d.	In the way of cure.	Rel. A.	—	—	Operated for cancer in both breasts two years ago.
—	32 d.	20 d.	Cure	Id.	—	—	Operated on two years ago.
ulcerous.	7 d.	5 d.	Death (erysip.)	—	—	—	
—	10 d.	—	Same state . .	—	—	—	No operation.
—	7 d.	—	Id. . . .	—	—	—	Id.
—	2 m.	—	Cure.	—	—	—	
—	19 d.	7 d.	In the way of cure.	Rel. A.	—	—	
—	8 d.	—	Same state . .	—	—	—	No operation.
—	79 d.	74 d.	Cure.	—	—	—	
—	—	6 w.	Id. . . .	—	Canc. cellules .	—	Size of an egg.
—	50 d.	—	Id.	—	—	—	
—	32 d.	26 d.	Id. . . .	—	—	—	Of the size of half a fowl's egg.
—	10 d.	4 d.	Death	—	{ Cancerous. Hypertrophied (Lebert). }	—	
—	17 d.	—	In the way of cure.	Rel. A.	—	—	Operated on a year before.
—	—	—	—	—	—	—	Incomplete obser.
pro-pneum. arthritis.	16 d.	—	Death.	—	—	—	
ulcerous .	61 d.	50 d.	Cure	—	Canc. cellules.	—	
Id. . .	24 d.	8 d.	Death. Erysip.	—	Id.	—	
—	31 d.	26 d.	Way of cure .	Relapse	—	—	
—	12 d.	8 d.	Id. . . .	3rd rel.	Canc. cellules .	—	Size of an egg.
—	3 d.	—	Same state.	—	—	—	
—	1 m.	—	Cure.	—	—	—	
—	33 d.	29 d.	Id.	—	—	—	
ulcerous .	47 d.	43 d.	Way of cure .	—	—	—	No operation.
—	10 d.	—	Same state . .	—	—	11	No operation.
—	3 d.	32 d.	Apparent cure	2nd rel.	Canc. cellules .	2	
—	73 d.	69 d.	Id. . . .	3rd rel.	Id.	—	
—	70 d.	61 d.	Cicatrization .	2nd rel.	Id. . . .	3	
—	70 d.	36 d.	Cure.	—	—	—	
—	1 m.	—	Id.	—	—	—	
ulcerous	—	4 d.	Death from erys.	—	—	—	
ulcerous.	129 d.	108 d.	Cicatrization .	3rd rel.	—	—	Appearance of a new tumour.
cholera.	—	—	—	—	—	—	
ys. Abscess	55 d.	43 d.	Way of cure. .	—	—	—	
ys. Pur.	25 d.	73 d.	Death from pu- rulent infec.	—	—	Pregnant	
infection.	40 d.	54 d.	Cure	—	Canc. cellules .	6	Size of pigeon's egg.
ulcerous .	33 d.	28 d.	Id.	—	Id.	Id.	Abundant transparent fluid from the nipple.
ys. Abscess	48 d.	43 d.	Id.	—	—	Several	Sang. pur. liq. by the nipple.
—	34 d.	—	Same state . .	—	—	—	No operation.
—	30 d.	—	Cure	3rd rel.	—	—	

Years.	Varieties.	Age.	Profession.	Seat.	Date of Appearance.	Causes.	Complications before Treatment.
1851	—	48	Linen-maker .	Left B.	—	Blow .	—
"	Ligneous .	68	Labourer . .	Right B.	4 years .	Id. .	Ulcerated . .
"	In mass . .	33	Sempstress .	Left B.	16 years .	—	—
"	—	61	Linen-maker .	Id.	—	Violent blow.	—
"	Ligneous .	53	Labourer . .	Id.	—	—	Axill. engorg.
"	Ligneous and disseminated.	48	Id. . .	Both B.	2 years .	—	Id.
"	—	35	Servant . .	Right B.	—	Blow .	—
"	—	48	Schoolmistress	Left B.	6 months .	—	Cyst
"	Ligneous .	53	Linen-maker .	Right B.	—	Blow .	Axill. tumour
"	—	53	Labourer . .	Id.	—	Id. .	Id.
"	—	56	Servant . .	Left B.	—	Id. .	Id.
1852	—	42	Id. . .	Id.	1 year . .	—	—
"	In plates .	50	Housekeeper .	Both B.	4 years . .	—	Axill. engorg.
"	—	48	Labourer . .	Right B.	7 years . .	—	Id.
"	Ligneous .	35	—	Id.	2 years . .	Blow .	Id.
"	—	56	Shopkeeper .	Left B.	15 years .	A blow .	—
"	Ligneous .	64	Day-labourer .	Id.	1 year . .	—	—
"	Lardaceous .	51	Domestic . .	Id.	5 months .	—	—
"	—	48	Id. . .	Id.	1 year . .	—	—
"	Ligneous .	44	—	Right B.	2 years . .	—	Axill. tumour
"	Lardaceous .	47	—	Left B.	16 years .	Blows .	—
"	Id. .	30	Rag-picker .	Id.	3 months.	Id. .	Axill. engorg.
"	Id. .	42	Porteress . .	Id.	—	Id. .	—
"	Ligneous .	58	Day-labourer .	Id.	—	—	—
"	Id. .	61	Id. . .	Id.	1 year . .	—	—
"	Branching .	63	—	Right B.	18 months	A blow .	Axill. engorg.
"	In plates .	36	Sempstress .	Both B.	18 months	—	Id.

In these tables taken by the year we find, for

1824 . .	5 cases.	1838 . .	8 cases.	1843 . .	10 cases.	1848 .
1826 . .	1	1839 . .	9	1844 . .	14	1849 .
1831 . .	1	1840 . .	2	1845 . .	12	1850 .
1835 . .	7	1841 . .	11	1846 . .	19	1851 .
1836 . .	10	1842 . .	5	1847 . .	7	1852 .
1837 . .	15					

The date indicated of the disease has been, of

1 year for 36	6 years for 6	15 years for 2
2 " 20	7 " 2	16 " 4
3 " 15	9 " 1	18 " 1
4 " 12	10 " 5	some years 7
5 " 6	14 " 1	

The form has been ligneous 48 times, in mass 26, lardaceous 21, in plates 5, disseminated 5.

Of 197, 57 were not operated on; the operation or the cauterization

Complications after Treatment.	In Hospital.		Termination.	Relapse.	Pathological Anatomy.	Births.	Observations.
	Com- plete.	Since Treat- ment.					
Hos. gangrene	22 d.	20 d.	Way of cure .	—	Canc. cellules.	—	
Erysipelas .	20 d.	—	Death. erysip.	—	Id. . . .	5	Size of an apple.
—	15 d.	—	Same state .	—	—	—	No operation. Occu- pying the whole bosom.
Erys. Hospi- tal gangrene.	57 d.	40 d.	Cicatrization .	Several relapses.	—	3	Pleuro-pneumonia. pas. en méd.
Hos. gangrene	69 d.	61 d.	Way of cure .	—	—	—	Size of an orange.
—	4 d.	—	Same state .	—	—	—	No operation.
2 erysipelas .	47 d.	40 d.	Way of cure .	—	—	—	Size of an egg.
—	43 d.	11 d.	Cure	—	Canc. cell. Hyp.	—	
—	4 d.	—	Same state .	—	—	2	No treatment.
Hos. gangrene	42 d.	29 d.	Way of cure .	—	—	4	
Erysipelas 2	3 m.	84 d.	Cure.	—	—	—	
—	35 d.	29 d.	Id.	—	—	—	
—	5 d.	—	Same state .	—	—	Several	No treatment.
Erys. Abscess	2 m.	55 d.	Cure	—	—	2	
—	10 d.	—	Same state .	—	—	—	No treatment.
—	13 d.	—	Same state .	—	—	—	No treatment.
Slight erysi- pelas.	23 d.	17 d.	Cure	—	Car. of scirrhus; can. cellules.	2	
Erysipelas .	36 d.	30 d.	Death . . .	—	Id.	4	
—	35 d.	29 d.	Cure.	—	—	—	
—	51 d.	45 d.	Id. . . .	—	Car. of scirrhus; can. cellules.	14	
Erysipelas .	76 d.	66 d.	Id. . . .	—	Id.	6	With sero-sanguin. cyst.
—	25 d.	—	Same state .	—	—	—	Of the size of an egg.
—	29 d.	25 d.	Cure	—	Car. of scirrhus; can. cellules.	—	No treatment.
Erysipelas .	1 m.	24 d.	Id. . . .	—	Can. cellules.	—	
—	57 d.	47 d.	In the way of cure.	—	Id.	—	
—	69 d.	54 d.	Cure.	—	—	—	
—	21 d.	—	Aggravation of the disease.	—	Car. of scirrhus; can. cellules.	—	

140 times; 70 remained cured, or in the way of cure, when I lost sight of them. The relapse appeared already in 22 others. Erysipelas appeared 45 times, and the wound was attacked with hospital gangrene 7 times, once in 1844, once in 1845, and 5 times in 1851.

30 women died:

5 in 1824	4 in 1844	2 in 1848
1 „ 1835	2 „ 1845	1 „ 1850
3 „ 1837	4 „ 1846	2 „ 1851
1 „ 1838	2 „ 1847	1 „ 1852
2 „ 1843		

18 of erysipelas; 4 of cancerous infection; 2 of adynamia; 3 without any appreciable disease; 2 of diffuse phlegmon; 1 of purulent infection.

The disease was complicated with pleurisy five times, with pneumonia once, with peritonitis once, pericarditis once, adynamia once, purulent infection once.

1853 gave 17 amongst the women of the following ages: 61, 71, 53, 65, 62, 70, 40, 50, 73, 45, 64, 41, 45, 69, and 54 years.

Years.	Varieties.	Age.	Profession.	Seat.	Date of Appearance.	Causes.	Complication before Treatment.
1834	M.	40	Butcheress . .	Right B.	—	—	Ulcerated .
1836		43	Labourer . .	Left B.	—	Blow .	Id.
1837		45	—	Id.	9 months .	—	—
"		52	—	Right B.	—	—	—
"		48	Cook	—	18 months	—	Ulcerated .
"		39	Pasteboard-maker.	Right B.	—	—	Ax. tumour.
"		40	—	Id.	17 months	Blow .	Ulcerated .
1838		51	Labourer . .	Left B.	5 months .	—	Ulcer ax. tum.
"		59	Charwoman .	Right B.	—	—	Ax. engorg.
"		76	—	Left B.	2 years . .	—	—
"		40	Labourer . .	Id.	—	—	—
"		39	Id.	Right B.	4 months .	—	Axilla. tumot
"		47	—	Id.	4 months .	—	—
1839		50	Servant . .	Id.	—	—	Axilla. engorg.
"		62	—	—	—	—	Cancer in livi
"		—	Vintager . .	Left B.	4 years . .	—	Axilla. engorg.
1840		58	Groceress . .	Id.	1 year . .	Blow .	—
1841		21	Lacewoman .	Right B.	6 months .	Id.	Axilla. tumot
"		34	Sempstress .	Left B.	—	—	Ulcerated .
"		39	Labourer . .	Id.	—	—	—
"		53	Servant . .	Id.	1 year . .	—	Ulc. ax. eng.
1842		38	—	Right B.	4 years . .	—	Ulc. hæmorrh.
"		54	Workwoman .	Id.	8 months .	—	—
1844		46	Sempstress .	Id.	5 years . .	—	Ulcerated .
"		50	—	Left B.	2 years . .	—	—
"		38	Pinkeress . .	Right B.	—	—	Encephaloid the abdomin wall.
1845		59	Washerwoman	Id.	3 years . .	—	—
1846		56	Labourer . .	Left B.	5 months .	Blow .	Ulc. plat. di semin.
"		66	Florist . . .	Id.	1 year . .	Id.	Ulc. ax. engorg.
"		27	Cook	Right B.	Id.	—	—
"		49	Id.	Left B.	—	—	Axilla. engorg.
1847		55	—	Right B.	2 years . .	—	—
1848		47	Schoolmistress	Id.	—	—	—
"		29	—	Left B.	—	—	—
"		68	Sempstress .	Right B.	—	—	—
"		47	Housekeeper .	Id.	2 years . .	—	—
1849		59	—	Left B.	—	—	—
"		40	Cook	Right B.	—	—	Axilla. tumot
"		46	—	Id.	—	—	Ulcerated .
"		49	—	Left B.	—	—	—
1850	M.	62	—	Id.	Sevl. years	—	Ulcerated .

Complications after Treatment.	In Hospital.		Termination.	Relapse.	Pathological Anatomy.	Births.	Observations.
	Complete.	Since Treatment.					
—	—	2 m.	Cure	—	Cancer encephaloid.	Several children.	No relapse (1852). A vast wound.
Mortif. cell. tissue; signs of pleurisy.	35 d.	—	Not cured . .	—	—	—	—
—	39 d.	34 d.	Cicatrization .	L. R. .	—	—	Larger than the head at birth.
—	—	—	—	—	—	—	Operated on thrice, and finally cured radically.
—	1 d.	—	Same state . .	—	—	—	Involving the whole breast.
—	43 d.	—	Id. . .	A. R. .	—	—	Operated on a year ago; incurable.
—	4 d.	—	Id. . .	—	—	—	Hemiplegia; incurab.
Purulent inf. Erysipelas .	40 d.	35 d.	Death	—	—	10	—
—	31 d.	21 d.	Id. . . .	—	—	—	—
—	—	16 d.	Cure	—	—	—	—
—	1 d.	—	Same state . .	A. R. .	—	—	Operated on 18 months ago; incurable.
—	3 d.	—	Id. . .	Id. .	—	—	Operated on 5 months ago; incurable.
Erysipelas .	2 d.	—	Id. . . .	Id. .	—	—	Id.
—	21 d.	12 d.	Death	Id. .	—	—	Operated on 4 years ago.
—	d.	—	Id. . . .	—	—	—	—
—	41 d.	37 d.	In way of cure	—	—	—	—
—	23 d.	—	—	A. R. .	—	—	Operated on 18 years ago.
Erysipelas .	5 m.	71 d.	Cure	—	—	—	—
—	51 d.	33 d.	Id.	A. R. .	—	—	Operated on 8 months ago.
Erysipelas .	30 d.	24 d.	Id.	Id. .	—	—	Already operated on.
—	5 d.	—	Same state . .	—	—	4	Inoperable.
—	41 d.	35 d.	In way of cure	—	—	—	Of the size of both fists.
—	55 d.	51 d.	Id.	—	—	15	Size of an egg.
—	54 d.	42 d.	Cure	—	—	—	Size of the fist.
—	26 d.	23 d.	Id.	2 A. R. .	—	—	Operated on for 2 tumours; 1 in right breast, the other in left; 3 years and 2 years ago.
—	50 d.	—	Death	—	—	—	—
Pneumonia. pleurisy.	79 d.	—	Death (in the way of cure.)	—	—	—	—
—	8 d.	—	Same state . .	—	—	—	No operation.
—	24 d.	19 d.	Cure	—	—	—	—
—	53 d.	—	Id.	—	—	—	—
—	18 d.	—	Id.	A. R. .	—	—	Operated on 7 years ago.
—	75 d.	—	Id.	—	Cancer, encephaloid, lardaceous	—	No relapse (1853).
Abscess . .	41 d.	36 d.	Cicatrization .	S. R. .	Cancer cells . .	Several.	4 relapses. Extirpation and cauterization. Safrano-sulphur; not cured.
4 relapses .	95 d.	—	Not cured . .	Id. .	—	1	No operation.
—	14 d.	—	Same state . .	—	—	—	Fears of a relapse.
—	40 d.	38 d.	Cicatrization .	—	—	—	—
Cholera . .	38 d.	35 d.	Cure	—	—	—	—
Erysipelas .	130 d.	112 d.	Cicatrization .	S. R. .	—	—	—
Cholera . .	45 d.	39 d.	In the way of cure.	—	Cancer cells . .	—	Size of the head of an infant.
Purulent inf. Erysipelas .	49 d.	40 d.	Death	—	—	Several.	—
—	—	2 m.	Cure	—	Cancer cells . .	—	No relapse.

Years.	Varieties.	Age.	Profession.	Seat.	Date of Appearance.	Causes.	Complications before Treatment.	7
1850	M.	58	—	Left B.	—	—	Hæmorrhage .	Ext
"		49	Cook	Id.	—	—	Ulcerd. engorg. of axilla and sub-clavicular	
"		46	Id.	Right B.	10 years .	A blow .	Engorgement of axilla.	Ext
1851		49	Wine-merchant	Id.	3 years . .	—	Ulcer, and softening.	
"		67	Housekeeper .	Id.	2 years . .	—	—	Ext
"		48	Day-labourer .	—	—	—	—	
"		65	—	Right B.	9 years . .	A blow .	Ax. tumour	Ext
"	Lardaceous encephaloïd.	55	Innkeeper . .	Id.	—	—	—	
"		49	—	Id.	—	—	Ulcer, and softening.	Ext
"		51	Washerwoman	Left B.	—	—	Ax. tumour	
"		53	Innkeeper . .	Id.	—	—	Ulcerated . .	Ext
1853		51	Waistcoat-maker.	Right B.	8 months .	—	—	
"		25	Sempstress . .	Id.	18 months	—	—	

By carrying this table forward to the 1st of September, 1853, I could it 8 new cases, 3 in the last year, and 5 in the present; hence a total of 15. Moreover, I do not give such tables as complete; they do not contain facts I have observed; the differential diagnostic of the various forms of has not always been clearly made out; the cause, the date of the disease, the final results of the operation, are often wanting; but what they contain and I may affirm that no harmless tumour has been entered here as a can in this point of view these tables may be entirely depended on. It is, respect of the proportion between scirrhus and encephaloïds that the most to be desired.

Complications after Treatment.	In Hospital.		Termination.	Relapse.	Pathological Anatomy.	Births.	Observations.
	Com- plete.	Since Treat- ment.					
—	—	10 w.	Cure	—	Cancerous cellule	—	No relapse.
—	34 d.	32 d.	Cicatrization .	Rel. P. p. pust.	—	—	
Erysipelas, abscess.	48 d.	43 d.	Cure	—	—	—	The posterior relapse was attacked with the sulphuric caustic; the cure took place in twenty days. Flow of blood by the nipple.
Hospital gangrene.	2 m.	40 d.	Apparent cure.	{ Rel. P. } { Rel. A. }	—	—	
—	39 d.	37 d.	In the way of cure.	—	—	—	
—	—	—	—	—	—	—	
Purulent in- fection.	8 d.	—	Death . . .	—	Cancerous cellule	—	Of the size of an egg.
—	14 d.	—	—	—	—	10	
—	36 d.	—	In the way of cure.	—	Cancerous cellule	—	
—	—	—	Id.	—	—	—	
Hospital gan- grene.	63 d.	40 d.	—	—	—	—	Traces of a relapse.
Hospital gan- grene, ery- sipelas.	16 d.	13 d.	Death . . .	—	Cancerous cellule	Several children.	
—	60 d.	55 d.	Apparent cure.	Rel. P.	No cancerous cel- lules under the microscope. En- cephaloid cancer.	—	
Erys. cerebral symptoms.	39 d.	30 d.	Death . . .	Rel. A.	—	—	

Here, of 45 operated on:

1834 . . . 1	1841 . . . 3	1848 . . . 3
1836 . . . 1	1842 . . . 2	1849 . . . 4
1837 . . . 1	1844 . . . 2	1850 . . . 4
1838 . . . 2	1855 . . . 1	1851 . . . 6
1839 . . . 2	1846 . . . 3	1852 . . . 4
1840 . . . 1	1847 . . . 1	1853 . . . 3

9 are dead: of erysipelas, 3; of purulent infection, 3; of pleurisy, 2; of hospital gangrene, 1.

2 died without operation; 6 were attacked with erysipelas; 2 with hospital gangrene; 2 with cholera; and 1 with pleurisy.

20 left cured; there was a relapse in 18; 18 had an ulcerated cancer.

SECTION FIRST.

HARMLESS OR BENIGN DISEASES.

PHLEGMASIE, abscesses, indurations, cysts, tumours, present, moreover, in the male breast some differences which it is important to know.

CHAPTER I.

INFLAMMATION AND ABSCESS.

WHETHER inflammations commence between the gland and the integuments, between the gland and the chest, or in the tissue itself of the mamma, it is seldom that they are not occasioned by some external violence. One of the municipal guard, who received, in the days of June, 1834, a ball on the breast-plate of his uniform, had in this way the chest violently contused, and soon afterwards a deep abscess of the breast. In another patient, the phlegmon had been caused by repeated friction of the chest against some hard bodies; in another case the inflammation resulted from the fall of some rough stones on the nipple.

It is not the less true that the male breast inflames sometimes without an appreciable external cause, especially in youth, particularly before puberty. I have ascertained besides, that the diseases of the mamma in the girl and in the boy resemble each other greatly. At this period of life I have only met with in the breast inflammations of the nipple, sub-mammary inflammations, or adenoids; in one case, however, the abscess was really subcutaneous.

The mammary tissue of man is so dense, the gland is so thin, that the inflammations, should they become purulent, can scarcely give rise to collections otherwise than between the breast and the chest, or in the subcutaneous layer. Idiopathic abscesses of the male breast never acquire a large size, they proceed or are developed with a certain slowness, their diagnostic is generally easy, they do not expose the patients to the troublesome consequences of certain abscesses in the breasts of women. Lactation is not there to increase the source, to prevent detersion and cicatrization; and so they resemble simple ordinary abscesses, and require no other treatment.

Called in good time, the surgeon may almost always obtain resolution. To effect this he must have recourse immediately to the application of leeches around the tumefied part, if not on the inflamed part itself. Emollient cataplasms, unctions with mercurial ointment, assist local blood letting; then, also, a large blistering plaster, applied in succession over all the mammary region, often extinguishes the inflammation. If, despite this treatment, or because the medical man has been called in too late, an abscess appears, there is no occasion, as in woman, to prefer the spontaneous opening to the surgical, in certain cases. In fact, even when the abscess occupies the parenchyma of the gland, it is not the less necessary to lay it open by incision so soon as fluctuation is evident. Once opened suitably, abscesses of the breast in man tend neither to multiply nor to continue for months under the form of fistulæ, as in women; apart from special complications, they heal up quickly and radically.

Moreover, acute or chronic symptomatic abscesses are at least as frequent in the mammary region of man as of woman. A young man, who entered the hospital for an acute abscess of the right axilla, had, at the same time, the mamma raised by a large collection of pus; another patient, aged forty-seven had, in the left mammary region, an irregularly-swollen tumour, red, almost indolent, as

large as the head, of an encephaloïd look ; a tumour which, nevertheless, was a vast dépôt, filled with pus and clots of blood, originating in a caries of the sternum. Here is another fact still more remarkable.

Tumour of the breast, tense, fluctuating, painful under a strong pressure, without any change of colour in the skin; tumour of the neck, sub-aponeurotic, fluctuating, less resistant, and more painful than the first. Incision of the tumour of the neck; issue of serous grumous pus; a blister applied to the tumour of the breast, which spreads more and more. Paralysis in the lower extremities, bladder, rectum, upper extremities, the sensibility remaining; formation of an abscess in the loins. Sloughs over the sacrum. Loss of flesh; marasmus. Death. Nothing found in the brain; no pulmonary tubercles; viscera sound; veins of the lower extremities filled with old clots; caries of the sixth and seventh cervical vertebræ, and of the last two ribs; thickening and softening of the periosteum of the second and third ribs of the left side; medulla compressed anteriorly on a level with the fifth, sixth, and seventh cervical vertebræ, and first and second dorsal, by a tubercular matter, or of concrete pus.

Maximilien Gérard, nineteen, ébénist, perceived, about five weeks ago, a slight swelling of the left mammary region. But little painful to the touch, this swelling augmented rapidly; in fifteen days it reached the size it now has. Pretty nearly about the same time, some pains were perceived in the left lateral and lower part of the neck, where another swelling had appeared a long time ago. For these tumours the patient yesterday entered the Hôpital la Charité.

Below the average height, weak in muscle, thin, this young man has never had hæmoptysis nor epistaxis; he does not readily catch cold; his parents are generally in good health.

In general his health is good; he complains only of some pains through the chest, in the neck, in the shoulders.

The tumour of the breast is tense, fluctuating, painful when depressed so as to reach the ribs; without change of colour in the skin; it seems situated under the great pectoral muscle, the inferior attachments of which limit it below. Projecting about 0^m.02 to 0^m.03, regularly rounded, it has a diameter of 0^m.10.

The tumour in the neck, in the lower part of the left supra-clavicular triangle, sub-aponeurotic, is also fluctuating, less resistant, and more painful than the tumour of the breast; it projects but little, and has scarcely the dimensions of the half of a nut.

In other respects there is no suffering. Appetite good; sleeps well.

Nothing amiss can be detected by auscultation, saving weakness in the respiratory murmur towards the summit of the right lung.

February 9, 1845.—Some days after the entrance of the patient into the hospital, the tumour in the neck was opened with the bistoury; a grumous pus, mixed with serosity, escaped by the opening. (Poultices, then ointment *de la mère*.) A little serosity escapes by the opening, now become fistulous. (*Feb.* 13.) A large blistering plaster applied to the tumour of the breast. A severe diarrhoea has caused us to suspend the administration of iron filings, given twice a day, instead of tannin. Strong appetite. Three portions of food.

Feb. 17.—The blistered surface is dry; the tumour of the breast spreads and softens.

The patient wastes away; his general state is not satisfactory. For some time, in the early morning abundant perspirations cover the face and the upper part of the chest; his limbs are feeble; he cannot quit his bed: (15 grammes) 231.570 grains of syrup of white poppy).

Feb. 25.—Excessive perspirations night and morning. Evident weakness: skin paler, eyes sunk. The abscess in the neck remains fistulous; the tumour of the breast still spreads towards the axilla. The patient can no longer move in bed. For four days he has not been able to raise his limbs, especially the left; the right arm is

weaker than the other. He is constipated, and has abdominal pains. The pulse, however, is as usual.

March 3.—Paralysis, which from the lower extremities extends to the bladder and rectum; no stools for a long time. Belly painful and tense. General weakness; increasing daily. The paralysis seems to proceed from below upwards; the arms have for some time begun to lose their strength, the mobility alone is affected; the sensibility remains in the parts attacked with loss of motion.

The appetite is almost lost.

20th.—He appears to be better. The bladder has recovered its functions: stools take place regularly; the appetite is better. The strength seems to be returning in the arms and hands, which were no longer of use in prehension, and notwithstanding the general weakness, increases daily.

The skin of the sacrum has become red, and threatens to mortify. A new abscess in the left lumbar region.

April 2.—Extreme emaciation; the intellect is clear; the *morale* good. The unfortunate man does not see that his end approacheth. The tumour of the breast is almost effaced, so greatly has it spread out.

The feelings of the mind continue unaffected.

The feet and limbs are becoming œdematous. The patient complains for some time of pains and creepings, as of ants, in the lower extremities.

A large eschar, like the palm of the hand, extending to the bones.

April 21.—Suffocation, pain in the side; the lungs are attacked; sub-crepitant *râles*.

The body is merely a skeleton covered with skin.

The legs and thighs are œdematous, and are twice their natural size; the hands begin also to be tumefied.

The urine and stools escape involuntarily. Sensibility remains. He can still raise his arms, but the hands can no longer grasp objects.

The heart, although feeble, expands the thin thoracic walls, and produces an undulating movement in the abscess of the breast, now almost wholly sunk.

April 22.—Death, this morning, at three o'clock.

April 23.—Examination of the body.

The brain is sound. A little serosity in the ventricles.

Abscess of the breast.—There flowed from it, when opened, about eight ounces of a creamy, thick, white pus. Its anterior wall is formed by the skin and some pale fibres of the great pectoral muscle. The sac, which extends towards the axilla, has for its posterior wall the intercostal muscles and ribs. By a destruction of a point of these muscles, between the second and third rib anteriorly, the abscess sends a prolongation under the sternum; in the middle of this prolongation the parietal and visceral portions of the pleuræ reunited, prevent the pus from entering the cavity of the chest.

Thorax.—Lungs choked, or filled at their base, and behind especially; some points of lobular pneumonia at the base of the right lung; no tubercles. The summit of the left lung adheres strongly to the thoracic wall.

The heart, soft, pale, small, contains some soft clots. The other viscera are sound. The spleen, a little larger than usual, tears readily.

The veins of the lower extremities, the iliac veins, the vena cava, as far as its passage behind the liver, are filled with fibrinous clots of old-standing, yellow, red, brown, and adhering to the venous walls, which, in their turn, adhere strongly to the sheath, and to the indurated and thickened cellular tissue.

In the left lumbar region is a vast fluctuating focus, from which escaped more than a litre (1·7607 pint) of white, creamy, well-concocted pus, limited below by the iliac crest, internally by the vertebral column. This abscess extends upwards under the last rib, which is carious throughout its whole anterior surface, then behind the first floating rib, carious also in a portion of its posterior surface. The anterior wall of the abscess is formed by the peritoneum, the *fascia propria* of which is thickened.

The pus had begun to enter the pelvis under the *fascia iliaca*.

Spinal Canal.—On a level with the fifth, sixth, seventh cervical, and first and second dorsal vertebræ, is a layer of plastic grumous matter, of a greyish-yellow, tuberculated, or of concrete pus, somewhat more than a line in thickness, adhering pretty strongly to the posterior common ligament, anteriorly and behind to the dura mater. This layer ceases at the limits of the foramina conjugalia, except on a level with the fifth and sixth cervical, where a small elongated mass of the same matter invests the left lateral wall of the canal, and the corresponding portion of the dura mater. The medulla, *compressed anteriorly* by this effusion, is in other respects sound. The left transverse processes of the sixth and seventh cervical vertebræ are denuded in places, and bathed in the pus of an abscess communicating, on one hand with the left lateral mass of the spinal canal, and on the other with the abscess which was open when the patient entered the hospital, and which remained fistulous.

CHAPTER II.

INDURATIONS.

AN induration, with slightly irritative hypertrophy of the mamma, is frequently enough met with before puberty, in the young girl as well as in the boy. I have chiefly met with it towards the age of fifteen, sometimes at ten or at twelve, sometimes also at sixteen and eighteen; but always in persons in whom the sexual functions were not fully developed. This kind of affection is met with in practice under two forms, sufficiently distinct—in the acute state and in the chronic. The acute state, by much the more common, is announced

of leeches, applied twice or thrice, at eight days' interval, around the tumefaction; some purgatives, bitter tisanes, provided there remains irritation, cure this affection rapidly enough. Most generally, indeed, in order to overcome it, it is sufficient to have recourse to simple topics, to linseed poultices in marsh-mallow water, in Goulard lotion, or in strong red wine, according to the case. Mercurial ointment, or the pomade of the iodide of lead, used in frictions, may also be useful to drive it away. A well-adjusted compression may also be indicated with advantage, and M. H. Larrey* has employed it with marked success.

Often, also, the disease disappears spontaneously, by the fact alone of the progress of years, under the influence of the development of puberty in the young girl, as well as in the young man. The surgeon then ought to speak confidently to the parents, or to the patients, who in such cases generally torment themselves beyond measure.

CHAPTER III.

CYSTS.

CYSTS of the mamma are rare in man: a few examples only have been published. I, for my own part, have only met with three. The most remarkable, of the size of an infant's head, appeared without a known cause, without pain, without previous inflammation, and had acquired the size spoken of in the course of a year. It occupied the external half of the right breast in a young peasant, aged fifteen. Its walls thin, of a natural colour, were grooved with some varicose veins.

At the first view, these tumours give the idea of a firm and round mamma, as is often observed in young

* Robelin, *Thèse*, 1852, No. 32, p. 19.

reddish colour, and from which exuded a semi-purulent ichorous matter. Deep anfractuositities divided the tumour almost to its adhesions to the thorax, in such a way that it seemed formed of several vegetations united to each other. All these parts were, however, confounded into a single root of about four centimetres (1·574132 inch) thick, and which occupied the mammary region. This mass had the elasticity and density of adenoid tumours, and not the softness, the fungous consistence of encephaloïd tumours. The disease was of fifteen years' duration, and had been ulcerated for three years; it troubled the patient chiefly on account of the discharge and the disagreeable odour; the slight pains it gave rise to gave him little uneasiness. At his age it was not desirable to remove it with the knife, and we agreed that a ligature should be placed around the root of the tumour, and tightened daily with the *serre-nœud* of Dessault.

The fall of the cauliflower excrescence took place in fifteen days, and the wound was cicatrized in three weeks. M. D—— lived four years afterwards without any relapse; he died of a disease having no connexion with the mammary tumour.

The epithelial tumours, the butyrous, are still rarer in the male. The only harmless tumours which I have seen, belong to the category of the hypertrophic or inflammatory indurations, or finally belong to the class of the cysts described above.

SECTION SECOND.

MALIGNANT, OR CANCEROUS DISEASES.

UP to 1839, I had seen no other cancers in the male breast excepting scirrhus. Bartholin,* who speaks of the extirpation of the male mamma; M. Sédillot,† who relates two similar facts; M. Pétrequin, who, in visiting Padua, ascertained also that the adult male breast had been extirpated in that city, all employ the term scirrhus to designate the disease which had rendered the operation necessary. M. Warren‡ describes two cases, but in such a way as to leave doubts respecting the real nature of the disease. M. Walsh§ believes that the cancer of the male breast is always a scirrhus.||

For my part, I have met with nine or ten examples of these cancers, one of which more resembled a fibroplastic tumour than a scirrhus. Moreover, I have met with tumours truly encephaloid a certain number of times in the male breast. One case, in which the tumour was not ulcerated, and as large as both fists, occurred in a man of about fifty years of age, and began to soften in one of its principal enlargements (bosselures).

A man, forty-eight years of age, who consulted me in 1850, had in the left breast large cerebroid fungosities, the axilla being at the same time filled with tumours of the same nature, not ulcerated.

I extirpated from the hollow of the axilla, in 1847, an ulcerated cancerous mass, in a man who had undergone, eighteen months previously, the removal of a large encephaloid from the mamma.

In 1851, I saw, with Dr. Vignolo, an ecclesiastic whose right mamma was the seat of a fungous cancer, ulcerated,

* Bonnet, t. iv. p. 451.

† *Presse Médicale*, t. i. p. 140.

‡ *On Tumours*, &c., p. 282.

§ Annotated by M. Mason Warren, Boston, 1844.

|| *ibid.*, p. 202.

anfractuous, 3·93708 inches in breadth; this was attacked and cured by means of sulphuric acid. M. Vidal* removed one from a patient of mine in La Charité; and A. Bérard† met with two on the same day at the central office of the hospitals. Blandin,‡ M. Deguise,§ M. H. Larrey,|| have also met with cases.

Here is enough, as seems to me, to prove that the male mamma is subject, like that of woman, but less frequently, to various kinds of cancers. We maintain that cancer of the mamma occurs also in children. Carmichael¶ says that he has met with scirrhus in both breasts in a child of twelve years.

Actually, I can no longer say, and as others have believed, that cancers of the male breast tend neither to disseminate themselves, nor to spread, nor to repeat themselves in the viscera, as in woman, seeing that I have several times witnessed the contrary. Thus a man operated on by A. Bérard, and who had a relapse in the axilla, died of a general cancerous affection eighteen months after having been operated on by myself for an axillary cancer. I have already said, moreover, that several of these patients had cancerous tumours in the axilla, and even above the clavicle. I am disposed, however, to believe that extirpation, or the destruction by caustic of cancers of the mamma, offers more chances of success in man than in woman. To the cases of radical cure which I mentioned in 1839, I can now add two others out of five operations. With the exception of these slight differences, cancer of the breast proceeds in man as in woman; it ought consequently to be subjected to the same treatment, the same precautions. In both it is a kind of tumours which never heal spontaneously; which, left to themselves, tend fatally to cause death, and which ought to be extirpated as soon as possible.

* *Pathol. Chirur.*, t. iii. p. 811.

† *Thèse de Concours*, 1842, p. 145. ‡ Lebert, *Phys. Path.*, t. ii. p. 317.

§ *Gazette des Hôpitaux*, Décembre, 1850.

|| Robelin, *Thèse*, p. 26. ¶ Walsh, *On Cancer*, &c., p. 203.

Here is a case I met with thirty years ago, and which proves that in the male mamma certain tumours of a cancerous appearance may, as in woman, prove very embarrassing in diagnostic.

Tumour taken for a cancer, but which was probably only a chronic abscess Extirpation; cure.

Teisse, forty-four, gardener, strong, well made, having never had any serious disease, fell, twenty months ago, upon a cask. The accident passed off at first unnoticed; but fifteen days later the patient perceived in the part struck a tumour, about the size of an egg, which he entirely neglected. Entering the ward Sainte-Côme, in the Hospital for Clinical Improvement, in February, 1824, he had a tumour, of the size of an adult's head, in the right anterior half of the chest. Irregularly swollen, this tumour presented below some projections, which advanced towards the eighth and ninth ribs. In the interval of these irregular projections (bosselures) the mass was softened. The skin over it was quite sound, and unadhering at any point. Towards the axilla there is a prominence enclosed by the inferior margin of the great pectoral and the sternum; this is depressed, causing the cartilages to project, so that at first sight one would say that the tumour forms part of this portion of the thorax. Nevertheless, on examining it more carefully it is seen to be distinct, and that it is wholly situated in the soft parts. As shooting pains have been felt for some days, and as the health is good in all other respects, an operation was proposed, and performed on the 22nd of February.

The tumour adhered to the ribs, and to the intercostal muscles, on which some parcels were left.

The right arm, which was swollen, soon became natural; the pulse acquired strength; the appetite returned towards the 12th of March. The 15th, some hard points were observed in the flaps of the wound, which are reunited at points, and cicatrized. The suppuration continues to be abundant. The 24th, some

reddish soft vegetations are observed, indolent, purely cellular vegetations, which subside by degrees, and finally disappear. The patient quits the hospital the 25th of April, suffering no longer, and happy at being relieved of the tumour.

This tumour, considered as a cerebriiform cancer by Bougon, left some doubts on my mind as to its cancerous nature, for I find in my notes a parenthesis, in which I say—

“The reunion by first intention was attempted. During the day there was as if a tightening of the chest; the pulse is small, the face pale. The 25th, the patient is well; there has been no fever. On the 26th, the first dressing took place; there is but little suppuration, and the lips of the wound are reunited throughout a considerable extent; a slight erysipelatous flush nevertheless appeared in the neighbourhood, and continued to the 1st of March. It was then ascertained that pus had collected under the flaps, the lips of which had become grey at some points. The pulse scarcely sensible in the right arm, is also very small in the left; nevertheless, the patient is well. The purulent discharge continues in an incomplete manner until the 9th. The pus, at first serous and flocculent, becomes by-and-by healthy. The tumour might therefore have been an abscess, whose concrete matter may have been decomposed, transformed. If it was not a cancer, the patient will recover; if an encephaloïd, it will reappear in the viscera, and the patient will die.”

On the other hand, I find in the description I made of it at the time, “The tumour is of a cerebriiform nature, at least, it presents most of the characters; but it contains also colloïd matter, fluid at some points, and still crude at others.” I add, finally, “May not this have been merely a vast abscess?”

To sum up: the diseases of the male breast resemble too strongly those of the breast in woman, and to the lesions in other regions of the body, to require here a longer chapter or more numerous details.

PART THIRD.

DISEASES OF THE MAMMA IN NEW-BORN INFANTS AND IN CHILDREN.

It is right to mention also certain shades of mammary affections peculiar to the newly-born or to young children. Accoucheurs, in fact, frequently observe in the infant, some days after birth, a swelling, a singular tumefaction of the breast. The whole mammary region swells, becomes the seat of a pain sufficiently acute; then this phlegmasic process disappears of itself. At other times, nevertheless, the disease continues, the inflammation augments, and terminates in an abscess. What is strange in all this is, that the disease proceeds to a certain point, like the milk swelling of lying-in women, or of those who have been just delivered.

M. Birkett,* who says that young girls affected with mammitis have at the same time a vaginal discharge, has seen, in an infant twenty-five days old, an abscess of the breast, preceded by a considerable secretion of milk.† The same author speaks, besides, of an abscess observed in the mamma of an infant of three months.‡

It must not be forgotten that, by pressure, a little milky liquid may be sometimes forced from the nipple in these children. Specimens of this liquid, submitted by me to M. Donné, who examined them with the microscope, gave all the elements of milk. Chemical reagents employed at the same time confirmed in all respects the evidence of the microscope.

Newly-born infants may thus be affected with a milk

* *Diseases of the Breast, &c.*, London, 1850, p. 11.

† Page 12.

‡ Page 15.

swelling like those who suckle their children ; they must, in consequence, be treated as described in the article on inflammations of the mamma, or of the *poil** in general. The ammoniacal liniment, with belladonna poultices, sometimes emollient, sometimes resolute, according as there is more or less irritation, are therefore the principal means to be tried : there is the less occasion to think of bloodletting, that the disease has an extreme tendency to terminate by resolution.

In support of the preceding, which dates of 1839,† I can now adduce the work of M. N. Guillot,‡ just presented to the Institute. The inquiries of this *savant* prove, moreover—1st. That in place of being an accident, an exception, the secretion of milk is a natural fact in new-born infants. 2nd. That the phenomenon is observed in boys as well as in girls. 3rd. That it takes place from the eighth to the seventeenth day after the fall of the remains of the umbilical cord. That sickly children are not alone subject to it, and that inflammations or abscesses are more often the result than the cause.

I have never met with general or partial hypertrophy, nor adenoïd tumours, nor cancers, in the mamma of the newly-born. These kinds of tumours would require, moreover, the same remedies in very young persons as in women. It is thus superfluous to consider them at greater length, to devote to them a new, a special article.

* A common name for the inflammatory swelling of the breast in recently delivered women.—TR.

† *Dict. de Méd.*, t. xix. p. 104.

‡ *Acad. des Sciences (Comptes Rendus)*, t. xxxvii. p. 609).

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